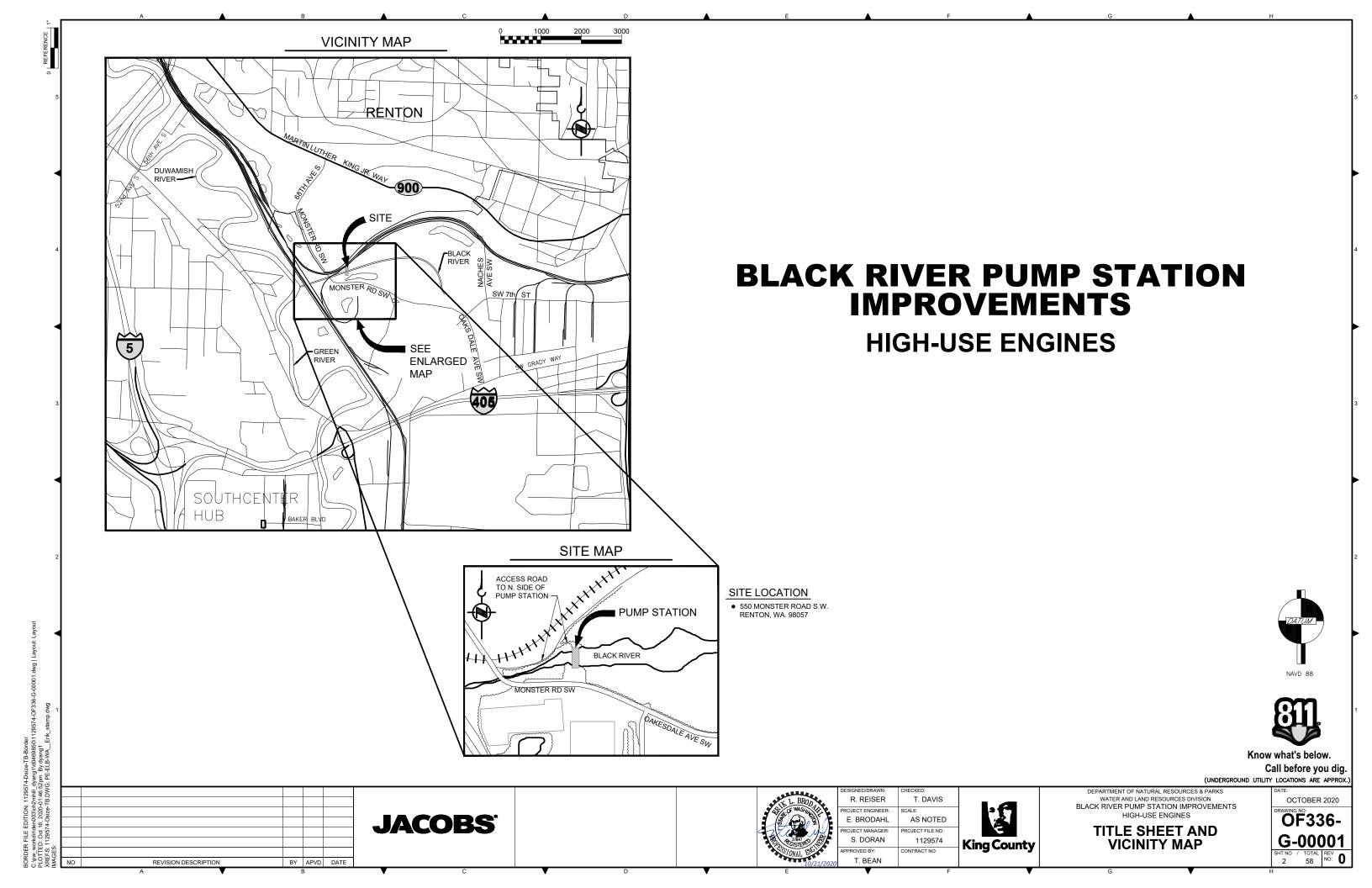
PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

VOLUME 3 - CONTRACT DRAWINGS

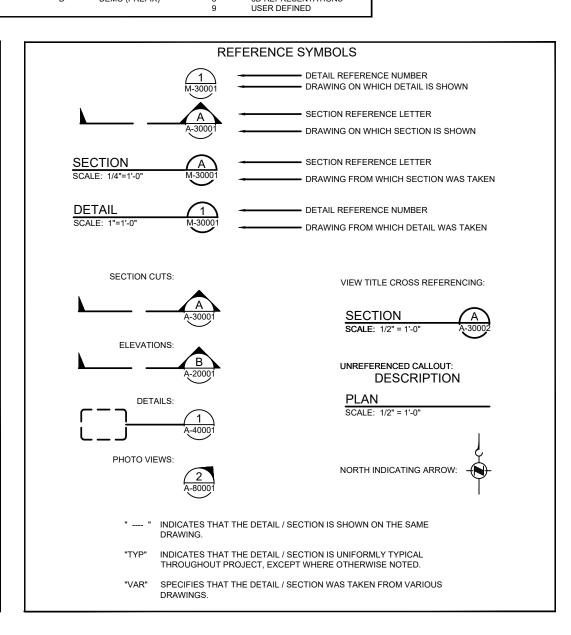
FACILITY NUMBER: OF336

OCTOBER 2020





MISCELLANEOUS SYMBOLS **IDENTIFIES EXISTING** EQUIPMENT OR MATERIAL TO BE BUILT FOR FUTURE REMOVAL REVISION INDICATOR AND CLOUD NEW FACILITIES OR EQUIPMENT **EXISTING** PROPERTY LINE, PHANTOM LINE OR MATCH LINE CENTERLINE HIDDEN LINE OR BURIED OR FUTURE IMPROVEMENTS DIRECTION OF SLOPE + EL 170.00 SPOT ELEVATION ROOM NUMBER WATER SURFACE ELEVATION CONTINUATION LINE TOP OF WALL TOS C TOP OF SLOPE MATCHLINE REFERENCE SEE DWG XXX-XXXX SCALE BAR



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Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.

JA

BY APVD DATE

REVISION DESCRIPTION

JACOBS



| DESIGNED/DRAWN: | CHECKED: |
|-------------------|------------------|
| R. REISER | T. DAVIS |
| PROJECT ENGINEER: | SCALE: |
| E. BRODAHL | AS NOTED |
| PROJECT MANAGER: | PROJECT FILE NO: |
| S. DORAN | 1129574 |
| APPROVED BY: | CONTRACT NO: |
| T. BEAN | |

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

DRAWING INDEX
AND GENERAL SYMBOLS

OCTOBER 2020

DRAWING NO:

OF336
G-00002

SHT NO / TOTAL REV
3 58 NO: 0

| Company Comp | | Α | | В | | C | GFI | NERAL ABBREVIA | TIONS | F | | G | | Н | |
|--|------------|---|-----------|---|-----------|----------------------------------|----------------|---------------------------------|----------------|---------------------------------------|-----------|--------------------------------------|----------------|----------------------------|-------------|
| The content of the | | AMPERE | COD | CHEMICAL OXYGEN DEMAND | FG | FINISHED GRADE | | | P | PLIMP PAVEMENT ELEVATION PAINT | <u> </u> | SOLITH, SOLENOID VALVE SLOPE | LIBC | LINIFORM BLIII DING CODE | |
| ## 1995 | AC | ASPHALTIC CONCRETE, ACOUSTIC | COF | COOLING AIR FAN | FH | FIRE HYDRANT,FLATHEAD | JCT | JUNCTION | | PARALLEL, PARAGRAPH | - | SILENCER | UG | UNDERGROUND | |
| Second | ADMIN | ADMINISTRATION | COM | COMMINUTOR, COMPACTOR | FIN | FINISHED | | | | PIPE COUPLING, PRECAST, PIECE | SB | SIGNAL BOX | UL | ULTIMATE LOAD | |
| The content of the | | | | | | | K | KID (4 000 DOLINDS) | P/C | | | | | | |
| Part | | ACOUSTIC | CONC | CONCRETE, CONCENTRIC | FLEX | FLEXIBLE | KD | KNOCK OUT | PCC | PLANT CONTROL CENTER | SCH | SCHEDULE | UPS | UNINTERRUPTIBLE POWER SUP | PPLY |
| | ADD | ADDITION(AL) | CONF | CONFERENCE | FLP ` | FLUID POWER UNIT | | | PCP | PLAIN CONCRETE PIPE | | SPLITTER DAMPER, SMOKE DETECTOR, | U/S | UNDERSIDE | |
| March Marc | | | | | | | | | | | SE | | | | |
| Second | | | | | | | | | PCU | | SEC | | | | |
| March Marc | AGGR | AGGREGATE | CP | COMPRESSOR, CENTER POINT, CONCRETE PIPI | E FMX | FLASH MIXER | | LATERAL, LATITUDE | | PRIMARY EFFLUENT | SEP | SEPARATOR, SEPTAGE | | | |
| March 10 | | | | | | | | | | | | | VAC | | à |
| March Control Contro | | | | CONDUIT RACK | FOB | FLAT ON BOTTOM | | LEVEL | PERF | | SHT | SHEET | | VARIES, VARIABLE | |
| West March | AMD | AIR MONITORING DEVICE | CREJ | CORRUGATED RUBBER EXPANSION JOINT | FP | FILTER PRESS, FIRE PROTECTION | LFBR | LINEAR FEET BASEBOARD | PG | PRESSURE GAGE | | SIMILAR | VC | VERTICAL CURVE, CHEMICAL V | /ENT |
| Property Company Com | | | | | | | | | | | SL SLG | | | | |
| | AP APPX | | CTRL | | | | | | | | | | | | |
| March Color Colo | AR | AIR RETURN | CULV | CULVERT | FR | FRAME | LO | LUBRICATING OIL | roi | CONTROL, PRESSURE INDICATOR, POINT OF | | SOCKOLET | VFT `´ | VACUUM FILTER | |
| March Marc | AS | AIR SUPPLY | C/W | COMPLETE WITH | | FAR SIDE, FLOW SWITCH, FIRESTAT, | LP | LOW PRESSURE | PID | PROPORTIONAL PLUS INTEGRAL | 5P | PRESSURE, STOP, STAND PIPE | ** | PETROLEUM VENT | |
| The content of the | | | | | FT | | | | PK | | | | | | TION |
| Company | AUTO | AUTOMATIC | | | FTG | FOOTING | | LOW VOLTAGE, LOUVER, LABORATORY | '- PL | PLATE, PIPELINE, PROPERTY LINE | SPD | SPEED | VTR | VENT THROUGH ROOF | |
| March Control Contro | VE | AVENUE | DB | DUCT BANK, DOWEL BAR | | FUTURE | | | | PROGRAMMABLE LOGIC CONTROLLER | SPG ` | SPACING | | | |
| Part | | | | | FZS | FREEZESTAT | M MA | | | | | | W | | |
| | BE | BEVEL BOTH ENDS | DEC | DECREASING | G G4 | | | | PLY | PLYWOOD | SR | SPEED REDUCER | | WITH | |
| Part | COP | BARE COPPER | DET | DETAIL | GAL | GALLON | MAN | MANUAL | PO4 | PHOSPHATE | SRT | SOLIDS RETENTION TIME | WC | WATER COLUMN | |
| ## Commonwealth 10 |) | | DFD | | GB | | MAX | MAXIMUM | | | | | WEG | WALL EXHAUST GRILLE | |
| Ministration | : | BLIND FLANGE | DG | DOOR GRILLE | GBV | GLOBE VALVE | | | PP | POWER POLE | - | SUSPENDED SOLIDS, SECONDARY | WER | WALL EXHAUST REGISTER | |
| ## Company of the Com | HP | BRAKE HORSEPOWER | DIAG | DIAGRAM | GDR | GRINDER | MCM | THOUSAND CIRCULAR MILLS | PPH | POUNDS PER HOUR | SSC | SOLID STATE CONTROLLER, | WG | WASTE GAS, WATER GAGE | |
| G | E | | DIP | | | GROUND FAULT INTERRUPTER | MD | MOTORIZED DAMPER | | | SSFH | | WL | WATER LINE | |
| Windows Company Comp | OG | BUILDING | DIR | DIRECTION | GI | GALVANIZED IRON | | | PREFIN | PREFINISHED | SSK | SERVICE SINK | WLRD | | 3 |
| Second Control of Start Cont | | BEAM, BENCHMARK | DISCH | DISCHARGE | GND | GROUND | | EQUIPMENT | | PRESSURE REGULATING (REDUCING) | ST | START, STREET, STRUCTURE | | WATER METER, WATER MAIN | |
| ## 1995 | D5 | | | | GPM | | MG | MILLION GALLONS | PS | | | | WNG | WASHINGTON NATURAL GAS | |
| Company Comp | | | | | | | | | · - | | STGA | | | | |
| Property | DG | BRIDGING | DR | DRAIN ROCK, DRAINAGE, DOOR, DRIVE | GRTG | GRATING | MGR | MANAGER | | POUNDS PER SQUARE FOOT | STOR | STORAGE | WP | WORKING POINT | |
| ## 1985 | K | | | | | | MHHW | MEAN HIGH HIGH WATER | | | | | WR | WASHROOM | |
| MANAGEMENT 19.10 | | | | | | | | | PSIG | | | | | | ,P |
| March Marc | N | BAR SCREEN | | | | | | EQUIPMENT | | POINT, POINT OF TANGENCY | SUPT | SUPPORT | WSR | WALL SUPPLY REGISTER, WASH | HER |
| DALLEY OWN PROMETTING THE PROMETTING | | | F | FAST EMERGENCY | | | MIN | MINIMUM, MINUTE | | | | | WT | WATERTIGHT, WEIGHT | |
| Part | V | BUTTERFLY VALVE | | EXHAUST AIR, EACH | | | | | PVI | POINT OF VERTICAL INTERSECTION | SVI | SLUDGE VOLUME INDEX | WTD | | |
| Moderate Park Code Fig. | | | EAU | ENGINE ALTERNATOR UNIT | HC | HEATING COIL, HANDICAP | ML | MILLILITER, MIXED LIQUOR | | | SWBD | SWITCHBOARD | WWF | WELDED WIRE FABRIC, | |
| Control Cont | AB | DIRECT BURIAL CABLE, CABINET | EC ECC | | HDOT | HEAVY DUTY OILTIGHT | MLW | MEAN LOW WATER | | | | | v | | ED) TIMES |
| Second | \ P | CAPACITY | ED | EXTRACTOR DAMPER, EQUIPMENT DRAIN | | | MME | | | | _ | | XDCR | TRANSDUCER ` | LIV), TIMES |
| COLUMN C | | | EF | | | | | MOTOR OPERATOR, MASONRY OPENIN | | | I | | | | |
| Controlled Print Fig. Fig. Controlled Print Fig. F | | COOLING COIL | | | HG | MERCURY, HAND GRADE | MON | MONUMENT | | RETURN AIR | | | | | Ē |
| Contraction Figure Figur | P | CONCRETE CYLINDER PIPE | EJ | EXPANSION JOINT | | | | | | | TBN | TURBINE | YCO | YARD CLEANOUT | |
| Content | SP | CONCRETE LINED AND COATED STEEL PIPE CEILING DIFFUSER, CHEMICAL DRAIN | ELECT | ELECTRICAL | | | MTR MUL/DIV | MOTOR | | REINFORCED CONCRETE | TCL | TOTALLY CLOSED | | | |
| DOMESTIAN OF THE PROPERTY OF T | F | CONTROL DENSITY FILL | | | HOR,HORIZ | HORIZONTAL | MV | MUD VALVE, MILLIVOLT | RCP | REINFORCED CONCRETE PIPE | | | 25 | POSITION SWITCH | |
| Column First Fir | U | | EOL | ELBOLET | HP | | MXR | MIXER | | | TE | TOTALLY ENCLOSED, THICKENER EFFLUENT | MISCELI | ANFOUS: | |
| GENERAL FRANCISCO COURT FOR FORCE COURT FOR FORCE COURT FOR FORCE FOR FORC | | | E/P | | | | N | | REC | RECEIVER, RECESSED | | TERRAZZO | " | | |
| CIDENT FET FIRSH ACCUR. CIDENT FET FIRSH ACCU | : | CUBIC FEET | EPDM | | HRB | HEAT RESERVOIR FLOW | NaOH | SODIUM HYDROXIDE | RECEPT | RECEPTIONIST | TESCP | | # & | | |
| GOUT FEET REAL MANUEL COUNTY FEET REAL MANUEL | | | | EVAPORATOR | | | | | | | | TRANSFORMER | @ | | |
| GENERAL PART OF SECURITY SECUR | M | CUBIC FEET PER MINUTE | EQ | EQUAL | HSS | HIGH SIGNAL SELECT | NEG | NEGATIVE | RED | REDUCE(R) | THD'D | THREADED | Ø | | |
| CAST ROW, CONTROL RATION, CONTROL RATIO, CONTROL RATIO, CONTROL RATIO, CONTROL RATIO, CONTROL RATIO, CONTROL R | 3 | CUBIC FEET PER SECOND | | | HTL | HALF TIDE LEVEL | NIC | NOT IN CONTRACT | REG | REGULATOR | | | △ % | | |
| ORST ROM ORS | R | CHILLIER | ES | EXISTING SURFACE, EQUALIZED SLUDGE | | | | | | | TLE | THREAD LARGE END | | | |
| CONSTRUCTION JOINT EVEN CHECKER DE STAN CHECKER DE STA | | CAST IRON | EW | EACH WAY | HV | HAND VALVE | NP | NAMEPLATE | REM | REMOVABLE | TOA | TEST-OFF-AUTO | | | |
| THE CHICKER FLATE CHECKER FLATE CH | | CONSTRUCTION JOINT | | | | HEATING, VENTILATING, AND AIR | NPT | NATIONAL PIPE THREAD | RESIL | RESILIENT | | | GENER! | AL NOTES: | |
| GREUTH STATE OF THE STATE OF TH | L | CHECKER PLATE | EWT&B | EACH WAY TOP AND BOTTOM | | HIGH WATER | | | | | TOG | TOP OF GRATING | | | |
| CLEAR CLEARANCE CONDENSATELOW EDIT EXCENSION CLEAR CLEARANCE CONDENSATELOW EDIT EXCENSION CLEARANCE CONDENSATELOW EXCENSION | | CIRCUIT | EXH | EXHAUST | HYD | HYDRAULIC | NU | NOT USED | RF | RAISED FACE | TOP | TOP OF PIPE | | | |
| CELING, CH. ORINE GAS EXT EXTERIOR ICN IN INCREANTOR ICN IN INCREASOR CLOCK F F F F F F F F F F F F F F F F F F | | CLEAR, CLEARANCE, CONDENSATE-LOW | | | | | | | RGS | RIGID GALVANIZED STEEL | | | | | |
| CLOCK CLIAND CLOCK | | CEILING, CHLORINE GAS | | EXTERIOR | ICN | INCINERATOR | OAI | OUTSIDE AIR INTAKE | | | TP | TANGENT POINT, TRAP PRIMER | | | |
| MANUAL CONTROL STATION. FAB FABRICATED, FABRICATION F NSIDE FACE OUTSIDE FA | | CLOCK | F FA | | ID IE | | | | RM | ROOM | TPG | TOPPING | | | |
| MANUALAJUTG CONTROL STATUN F B FLAT BAR, FLOOR BEAM INF INFLIENT OLD OVERLOAD PM REPUISIONS PREMINTE THAN SOURCE THE RICH TOWN THAN SOURCE STARKS WATER AND LOOK BLACK FIRE CLEANOUT F F F FACE TO FACE IT IN INSTRUMENT TAP JACOBS | | MANUAL CONTROL STATION, | FAB | FABRICATE(D), FABRICATION | IF | INSIDE FACE | OF | OUTSIDE FACE, OVERFLOW | RO | ROUGH OPENINGS | | | | | |
| CEMENT MORTAR COATED COEMENT MORTAR COATED COEMENT MORTAR COATED CORRUSATED C | | MANUAL-AUTO CONTROL STATION | FB | FLAT BAR, FLOOR BEAM | | INFLUENT | OL | OVERLOAD | RPM | | TRANS | TRANSFORMER,TRANSFER | | ŧ | |
| CORRUSATED METAL PIPE A ASBESTOS PROTECTED CORRUGATED METAL PIPE DE FLOOR CLEANOUT MITTAL PIPE FLOOR DRAIN, FOUNDATION DRAIN MITTAL PIPE DE FLOOR DRAIN, FOUNDATION DRAIN MITTAL MITTALDCK ORN DRAIN MITTAL PIPE DE FLOOR DRAIN, FOUNDATION DRAIN MITTAL MITTALDCK ORN DRAIN MITTAL PIPE DE FLOOR DRAIN, FOUNDATION DRAIN MITTAL MITTALDCK ORN DRAIN MITTAL MITTALDCK ORN DRAIN MITTAL MITTALDCK ORN DRAIN MITTAL PIPE DE FLOOR DRAIN, FOUNDATION MITTAL MITTALDCK NIVERT INVESTIGATION NIVERT INVESTIGATION NIVERT INVESTIGATION NIVERT INVESTIGATION NIVER MITTALDCK NIVER PROJECT MANAGER PROJECT BEINOUS CARBON DICKLES AND | | | | | | | | | RR | RAILROAD | TRN | TRANSDUCER | | • | اللاق |
| ASSESTING FOLLOW FOR THE CONCRETE MASSONRY UNIT PER CONCRETE OF FLORING FOLLOW | P | CORRUGATED METAL PIPE | FCO | FLOOR CLEANOUT | INT | INTERIOR, INTERSECTION | ORF | ODOR REMOVAL FILTER | RTRP | REINFORCED THERMOSET PLASTIC | | | | 8 | |
| CONDUIT FOR FLOWMETER FLOW | | METAL PIPE | FD | FLOOR DRAIN, FOUNDATION DRAIN | INTLK | INTERLOCK | ORT | ODOR REMOVAL TOWER | RV | RELIEF VALVE | | TRANSFER SLUDGE, TOTAL SOLIDS | | | |
| CONTROL FE FLAT FACE FINSH FLOOR IN INSTRUMENT TAP CARBON DIOXIDE FF FLAT FACE FINSH FLOOR IFF FACE TO FACE IFF FLOOR INSTRUMENT TAP O 2 OXYGEN RWP RAINWATER PIPE TV THERMOWELL TYPICAL UNDERGROUND UTILITY LOCATIONS ARE UNDERGROUND UTILITY LOCATIONS ARE UNDERGROUND UTILITY LOCATIONS ARE UNDERGROUND UTILITY LOCATIONS ARE CAII before y TW TYPICAL UNDERGROUND UTILITY LOCATIONS ARE UNDERGROUND UTILITY LOCATIONS ARE UNDERGROUND UTILITY LOCATIONS ARE UNDERGROUND UTILITY LOCATIONS ARE R. REISER T. DAVIS PROJECT ENGINES WATER AND LAND RESOURCES & PARKS WATER AND LAND RESOURCES OF PARKS WATER AND LAND RES |) | CONDUIT | FDR | FEEDER | INV EL | INVERT ELEVATION | | | | | TSS | TOTAL SUSPENDED SOLIDS | | Know w | /hat's belo |
| 2 CARBO DIOXIDE F/F FACE TO FACE IT INSTRUMENT TAP (UNDERGROUND UTILITY LOCATIONS ARE (NOTE) (INSTRUMENT OF NATURAL RESOURCES & PARKS WATER AND LADRE RESOURCES & PARKS WATER | TL | CONTROL | FE | FLOWMETER | I/O | INPUT/OUTPUT | | | | | | | | | |
| DESIGNADIDRAWN: R. REISER T. DAVIS PROJECT ENGINEER: E. BRODAHL PROJECT MANAGER: S. DORAN 1129574 APPROVED BY: CONTRACT NO: DESIGNADIDRAWN: R. REISER T. DAVIS PROJECT ENGINEER: E. BRODAHL PROJECT MANAGER: S. DORAN 1129574 APPROVED BY: CONTRACT NO: DESIGNADIDRAWN: R. REISER T. DAVIS WATER AND LAND RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION OCTOBER DESCRIPTION OF TOTAL TOTAL RESOURCES & PARKS WATER AND LAND RESOURCES | | | | | | | | | | | | | | | - |
| R. REISER T. DAVIS PROJECT ENGINEER: E. BRODAHL NONE PROJECT MANAGER: S. DORAN 1129574 APPROVED BY: CONTRACT NO: R. REISER T. DAVIS PROJECT ENGINEER: E. BRODAHL NONE PROJECT MANAGER: S. DORAN 1129574 APPROVED BY: CONTRACT NO: WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES GENERAL ABBREVIATIONS OCTOBE TO ANY MATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES GENERAL ABBREVIATIONS OCTOBE OF 3. G-00 SHT NO / TOTAL | | | | | | | | | | DESIGNED/DRAWN: CHECKED: | | DEPARTMENT OF N | ATURAL RESOLUE | | ATE: |
| JACOBS JACOBS PROJECT ENGINEER: SCALE: E. BRODAHL NONE PROJECT MANAGER: S. DORAN 1129574 APPROVED BY: CONTRACT NO: APPROVED BY: CONTRACT NO: PROJECT ENGINEER: S. CALE: E. BRODAHL NONE PROJECT FILE NO: S. DORAN 1129574 APPROVED BY: CONTRACT NO: APPROVED BY: CONTRACT NO: PROJECT ENGINEER: S. CALE: E. BRODAHL NONE PROJECT FILE NO: S. DORAN 1129574 APPROVED BY: CONTRACT NO: APPROVED BY: CONTRACT NO: BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES GENERAL ABBREVIATIONS DRAWING NO: OF3 G-00 SHT NO: 7 TOTAL | + | | | + | | | | | J. BROD | I . | | WATER AND LA | ND RESOURCES | DIVISION | ОСТОВЕ |
| JACOBS E. BRODAHL NONE PROJECT MANAGER PROJECT FILE NO: S. DORAN 1129574 APPROVED BY: CONTRACT NO: APPROVED BY: CONTRACT NO: | | | | | _ = | | | | SS OF WASHING | P. | I,P | | | _ DRA | RAWING NO: |
| PROJECT MANAGER PROJECT FILE NO: S. DORAN 1129574 APPROVED BY: CONTRACT NO: King County ABBREVIATIONS GENERAL ABBREVIATIONS SHT NO 7 TOTAL | | | | | | 3 6 . | | | | E. BRODAHL NONE | | | | | OF3 |
| APPROVED BY: CONTRACT NO: SHT NO / TOTAL | 工 | | | JAN | | - | | | To the | \$C | | | | - | |
| APPROVED BY: CONTRACT NO: SHT NO / TOTAL | | | | | | | | | \$ \$ 37847 CO | S. DORAN 1129574 | King Co | | =VΙΔΤΙ(| ONS (| G-00 |
| REVISION DESCRIPTION BY APVD DATE TO THE TOTAL TO THE TOT | | | | | | | | , i | 1000 E | • | | | _ v :/~ : : : | J110 1 | |

EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.

 EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.

4. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.

5. FOR LOCATION OF CONTROL POINTS, SEE DRAWING G-10001.

 STAGING AREA SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND ON-SITE STORAGE OF MATERIALS.

7. PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES

8. ALL DISTURBED AREAS SHALL BE PROTECTED AND RESTORED TO THE ORIGINAL CONDITIONS.

GENERAL YARD PIPING AND UTILITY NOTES:

 EXISTING UTILITIES SHOWN HEREON WERE FROM PHYSICAL STRUCTURES, OR SURVEYED FROM SURFACE PAINT MARKINGS BY A LOCATOR SERVICE, PREPARED FOR A PREVIOUS PROJECT. SEWER AND STORM LINES WERE BASED ON AS-BUILT INFORMATION. BENDS AND CURVES IN PIPES ARE APPROXIMATE. AS SUCH, UTILITY HORIZONTAL AND VERTICAL POSITIONS ARE UNVERIFIED. FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION

2. PROTECT ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION. ALL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE AND NOT ALL UTILITIES MAY BE SHOWN HEREIN. INDEPENDENTLY VERIFY THE LOCATIONS OF ALL UTILITIES TO REMAIN USING POTHOLING OR OTHER METHODS TO LOCATE UTILITIES WITH SUFFICIENT ACCURACY TO PREVENT DAMAGE TO UTILITIES DURING CONSTRUCTION. VERIFY ALL UTILITIES HAVE BEEN LOCATED IN AREAS TO BE DISTURBED BY CONTACTING THE UTILITIES UNDERGROUND LOCATION CENTER. FOLLOW ALL STATE AND LOCAL REGULATIONS. CONTACT AND COORDINATE WITH REPRESENTATIVES FROM LOCAL UTILITY PURVEYORS BEFORE CONSTRUCTION BEGINS.

3. EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT

4. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 3' OF COVER.

5. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS, UNLESS SHOWN OTHERWISE, EXCEPT AT PIPE CROSSINGS WHERE PIPE VERTICAL ALIGNMENT SHALL BE ADJUSTED LOCALLY BY CONTRACTOR TO PROVIDE ADEQUATE CLEARANCE BETWEEN PIPES. CONTRACTOR SHALL PROVIDE ALL PIPE AND FITTINGS TO ADJUST PIPE VERTICAL ALIGNMENT AT CROSSINGS

6. FOLLOW ALL CITY OF RENTON REQUIREMENTS FOR CONNECTIONS AND ADJUSTMENTS TO CITY RELATED UTILITIES.

SITE SURVEY CONTROL INFORMATION:

DATUMS:

HORIZONTAL DATUM: WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83/91

VERTICAL DATUM: NAV'D '88

FEET TYPE UNIT: U.S. SURVEY FOOT

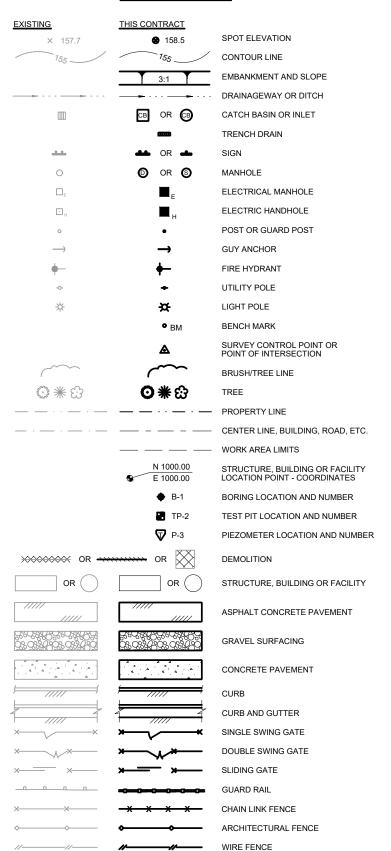
SITE SURVEY INCLUDED A COMPILATION OF TOPOGRAPHIC SURVEY BY PARAMETRIX, INC IN 2011; BATHYMETRY BY TERRASOND, INC. IN 2011 AND APS SURVEY & MAPPING IN 2016; AND VERIFICATION SURVEYS BY PACIFIC GEOMATIC SERVICES, INC. IN 2019.

GENERAL NOTE:

REVISION DESCRIPTION

1. THIS DRAWING ORIGINATED FROM A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE APPLICABLE TO THIS PROJECT.

CIVIL LEGEND



GENERAL CIVIL NOTES:

- A COPY OF THESE CONTRACT DOCUMENTS (DRAWINGS AND SPECIFICATIONS) SHALL BE KEPT ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS. THESE DOCUMENTS SHALL BE KEPT UP TO DATE BY THE CONTRACTOR TO REFLECT THE CURRENT STATUS OF THE PROJECT AND ANY/ALL REVISIONS, DELETIONS, CHANGE ORDERS, ETC.
- ALL WORK SHALL CONFORM TO THESE DRAWINGS AND SPECIFICATIONS. DRAWING SCALES ARE SHOWN
 FOR REFERENCE ONLY. DIMENSIONS SHOWN ON THE DRAWINGS SHALL BE USED FOR CONSTRUCTION AND
 SHALL ALWAYS TAKE PRECEDENCE OVER SCALED MEASUREMENTS.
- 3. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY SEDIMENTATION COLLECTION AND EROSION CONTROL FACILITIES AND BEST MANAGEMENT PRACTICES (BMP'S) THROUGHOUT CONSTRUCTION, TO ENSURE THAT EROSION OF THE SITE DOES NOT OCCUR AND THAT WATER CONTAINING SEDIMENT DOES NOT LEAVE THE SITE. FACILITIES AND BMP'S SHALL BE ADJUSTED AS SEASONAL CHANGES OCCUR AND AS SITE CONDITIONS CHANGE. SUBMIT ESC PLAN, PER SPECIFICATION 31 25 00.
- CONTRACTOR SHALL PROVIDE CONTINUAL MAINTENANCE AND CLEANING OF THE WORK AREAS, THE ROADS AND FACILITIES USED BY THE CONTRACTOR AND SUBCONTRACTORS, AND THOSE PORTIONS OF THE CONTRACTOR'S YARD AND THE LAY-DOWN AREA USED BY THE CONTRACTOR AND SUBCONTRACTORS. STREETS AND RESIDENTIAL DRIVEWAYS SHALL BE KEPT CLEAR AND CLEAN THROUGHOUT CONSTRUCTION.
- CONTRACTOR SHALL PREVENT CONSTRUCTION DEBRIS OR OTHER OBJECTIONABLE MATERIAL FROM ENTERING NEARBY WATERWAYS AND WETLAND AREAS. CONSTRUCTION EQUIPMENT SHALL NOT ENTER THE WATERS OF STREAMS OR WETLANDS
- 6. CONSTRUCTION EQUIPMENT SHALL BE CONTINUOUSLY MAINTAINED IN WORKING ORDER AND FREE FROM LEAKING FLUIDS. EQUIPMENT WHICH, IN THE SOLE OPINION OF THE PROJECT REPRESENTATIVE, IS IN POOR OPERATING CONDITION, SHALL BE REMOVED FROM THE SITE TO THE SATISFACTION OF THE PROJECT REPRESENTATIVE. SPILL CONTAINMENT AND CLEANUP MATERIAL SHALL BE MAINTAINED AT ALL ACTIVE CONSTRUCTION SITES.
- CONTRACTOR'S EQUIPMENT SHALL BE SERVICED AND MAINTAINED ONLY WITHIN AREAS APPROVED FOR THAT PURPOSE.
- 8. ALL CONSTRUCTION RELATED VEHICLES EXITING THE SITE AND THIS CONTRACT'S WORK AREA SHALL HAVE CLEAN TIRES AND CHASSIS AND SHALL NOT DEPOSIT DIRT, MUD, OR OTHER DELETERIOUS MATERIALS THAT WOULD PRESENT A NUISANCE OR HAZARD TO THE PUBLIC. WASH OR OTHERWISE REMOVE ALL SAID MATERIALS FROM VEHICLES EXITING THE SITE AND/OR WORK AREA. REQUIRE ALL SUBCONTRACTORS AND PERSONNEL TO FOLLOW THE SAME REQUIREMENTS FOR ANY VEHICLES TRAVELING TO AND FROM THE SITE FOR CONSTRUCTION PURPOSES.
- PROTECTION OF THE ENVIRONMENT: NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.
- NO WORK, EQUIPMENT, STAGING, OR CONTRACTOR PERSONNEL ARE ALLOWED IN THE RIGHT OF WAY AT
 ANY TIME UNLESS THE CONTRACTOR HAS MADE ARRANGEMENTS WITH CITY OF RENTON IN ADVANCE AND
 THE ACCESS HAS BEEN FULLY APPROVED BY THE CITY.
- 11. NO WORK, EQUIPMENT, STAGING OR CONTRACTOR PERSONNEL ARE ALLOWED ON THE LAKE TO SOUND TRAIL AT ANY TIME UNLESS THE CONTRACTOR HAS MADE ARRANGEMENTS WITH KING COUNTY PARK DEPARTMENT (THROUGH PROJECT REPRESENTATIVE) IN ADVANCE AND THE ACCESS HAS BEEN FULLY APPROVED BY THE COUNTY.
- 12. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY OR LAKE TO SOUND TRAIL THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AN APPROVED TRAFFIC CONTROL PLAN.
- 13. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARD, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF ITS WORKERS, PUBLIC, AND EVERYONE WITHIN THE PROJECT VICINITY, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT.
- 14. CONDUCT SAFE TRENCHING AND EXCAVATION PRACTICES, AND FOLLOW ALL STATE, LOCAL, AND FEDERAL REGULATIONS RELATED TO EXCAVATION SAFETY.

CIVIL LEGEND CONT'D:



STAGING AREA





Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX

JACOBS

BY APVD DATE

1. BROD

CULVERT

DESIGNEDIDRAWN:
R. REISER
T. DAVIS
PROJECT ENGINEER:
E. BRODAHL
PROJECT MANAGER:
PROJECT FILE NO:
3. DORAN
1129574
ADBROWED BY.
CONTRACT OF

T. BEAN

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

GENERAL LEGEND AND SYMBOLS

OCTOBER 2020

DRAWING NO:

OF 336
G-00004

SHTNO / TOTAL REV
5 58 NO: 0

C:pw. workdirkden003/ch2mhill dyang1k00468850/1129574-0F336-G-00004,dwg | Layout: Lay PLOTTED: Oct 16, 2020-01:47.20pm By dyang1 TXFES: 1128574-Dsize-TB.DWG; PE-ELB-WA_Erik_stamp.dwg

- ALL PARKING AND STAGING SHALL BE SITUATED TO FACILITATE CONTINUOUS KING COUNTY
 ACCESS TO ALL GATES, DOORS AND EQUIPMENT.
 - 2. GRAVEL ACCESS ROAD FOR NORTH SIDE OF STATION CAN BE ACCESSED FROM MONSTER ROAD SW, FURTHER WEST OF VIEW SHOWN IN THIS DRAWING. PROVIDE NOTICE TWO-WEEKS PRIOR TO CONSTRUCTION TO PROJECT REPRESENTATIVE (TO NOTIFY KING COUNTY PARKS DEPARTMENT) FOR ACCESS OR USE OF LAKE TO SOUND TRAIL, PER SPECIFICATION 01 14 30. ACCESS TO TRAIL IS LIMITED TO VEHICLES WITH A MAXIMUM OF TYPE H20 LOADING AND TRAIL OBSTRUCTION SHALL BE MINIMIZED. CONTRACTOR SHALL PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN, WHICH SHALL BE IMPLEMENTED DURING USE OF THE LAKE TO SOUND TRAIL, PER SPECIFICATION 01 55 26.
 - 3. REFER TO G-00001 FOR NORTH SIDE GRAVEL ACCESS ROAD CONNECTION TO MONSTER ROAD.
 - PROVIDE SPECIFIC PROPOSAL AND OBTAIN WRITTEN APPROVAL FROM PROJECT REPRESENTATIVE PRIOR TO LEAVING A TRAILER OR ANYTHING ELSE OUTSIDE TO REMAIN OVERNIGHT (OR LONGER).
 - THIS DRAWING DEPICTS GENERAL ACCESS FOR THE PUMP STATION SITE. AERIAL PHOTO AND SURVEY FEATURES ARE NOT ACCURATELY ALIGNED, AND ARE NOT SUITABLE FOR DIMENSIONING. CONTRACTOR SHALL DETERMINE DIMENSIONS AND CLEARANCES FOR ACCESS AS NEEDED.

- TEMPORARY CONSTRUCTION STAGING AREA AND WORK LIMITS, MAINTAIN ACCESS FOR KING COUNTY STAFF AT ALL TIMES, OR COORDINATE TO OBTAIN WRITTEN APPROVAL FROM PROJECT REPRESENTATIVE FOR SPECIFIC TIMES WHEN ACCESS WILL BE OBSTRUCTED OR MUST BE LIMITED.
- (2) DEDICATED CONSTRUCTION STAGING AREA. COORDINATE FINAL DIMENSIONS IN THE FIELD WITH THE PROJECT REPRESENTATIVE.
- (3) WORK AREA LIMITS SHALL BE WITHIN FENCED AREAS NORTH AND SOUTH OF PUMP STATION BUILDING, EXTERNAL WALKWAYS OUTSIDE OF PUMP HOUSE BUILDING AND WITHIN BUILDING.
- 4 MAINTAIN 20-FT CLEARANCE BETWEEN SITE TRAILER AND BOLLARDS AROUND FUEL STORAGE TANK TO ALLOW FUEL TRUCK CLEARANCE THROUGH THE SITE.
- $\begin{tabular}{lll} \bf 5 \end{tabular} SEE DRAWING M-40001 FOR REMOVAL OF EXISTING CONCRETE STOP LOGS AND STORAGE OF NEW FRP STOP LOGS IN EXISTING STOP LOG STORAGE AREA.$

TABLE OF EXISTING CONTROL POINTS:

| POIN | IT NUMBER | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|------|-----------|-------------|-------------|-----------|--------------|
| | 5001 | 176467.114 | 1291336.304 | 28.4 | 111 |
| | 5003 | 176727.703 | 1291307.194 | 28.086 | 142 |
| | 5048 | 176703.9127 | 1291255.014 | 28.3412 | 142 |
| | 5090 | 176535.4795 | 1291253.44 | 28.2936 | 142 |
| ф | 5104 | 176477.547 | 1290501.947 | 34.954 | 132 - Lead C |
| ф | 5105 | 175862.736 | 1293871.102 | 19.206 | 137 |
| | | | | | |



- NORTHINGS AND EASTINGS PROVIDED IN TABLE ARE ACCURATE AND PROVIDED FOR REFERENCE, BUT LOCATIONS ON PLAN VIEW ARE INACCURATE AND APPROXIMATE COMPARED TO AERIAL PHOTO. (SEE NOTE #5 ABOVE)
 - POINTS NOT SHOWN ON THIS DRAWING ARE OUTSIDE OF VIEW. (AS INDICATED WITH " ϕ ")

Know what's below.

Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.

JACOBS

BY APVD DATE

REVISION DESCRIPTION



| | CHECKED: | ESIGNED/DRAWN: |
|-------------|------------------|------------------|
| | T. DAVIS | R. REISER |
| 12 (7 | SCALE: | ROJECT ENGINEER: |
| | AS NOTED | E. BRODAHL |
| 2 | PROJECT FILE NO: | ROJECT MANAGER: |
| King County | 1129574 | S. DORAN |
| .ang souncy | CONTRACT NO: | PPROVED BY: |
| | | T REAN |

DEPARTMENT OF NATURAL RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

SITE ACCESS PLAN

OCTOBER 2020 **OF336-**G-10001 TOTAL REV NO: **0**

REVISION DESCRIPTION

BY APVD DATE

DJECT MANAGER

S. DORAN

T. BEAN

OJECT FILE NO

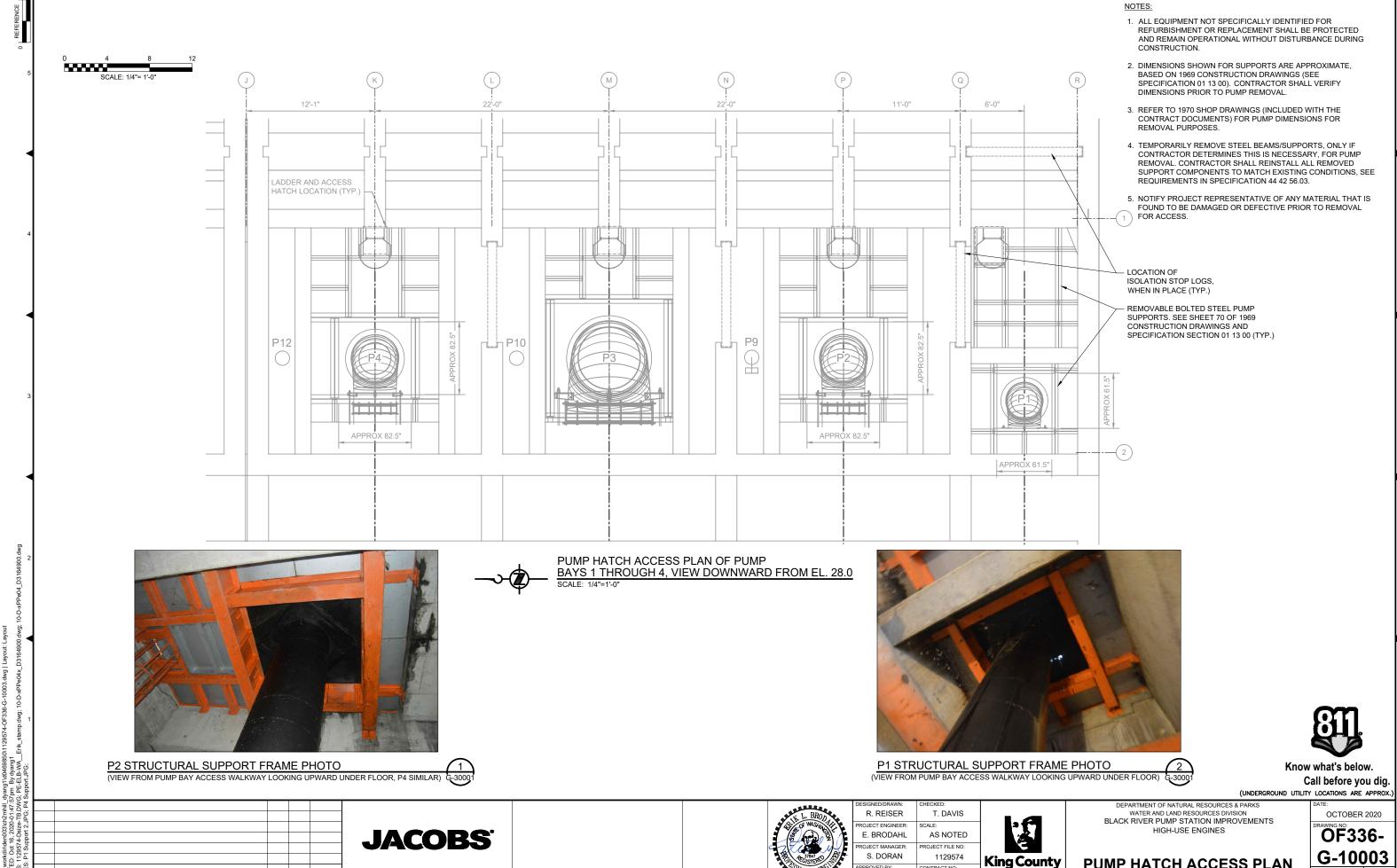
1129574

King County

PUMP FLOOR ACCESS PLAN

G-10002

58 NO: **0**



REVISION DESCRIPTION

BY APVD DATE

PUMP HATCH ACCESS PLAN

SHT NO / TOTAL REV 8 58 NO: 0

Know what's below.

Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

JACOBS'

REVISION DESCRIPTION

BY APVD DATE

L. BROOD
PROST

R. REISER
R. REISER
T. DAVIS
ROJECT ENGINEER:
E. BRODAHL
ROJECT MANAGER:
S. DORAN
T. 129574
FPROVED BY:
T. BEAN



DEPARTMENT OF NATURAL RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

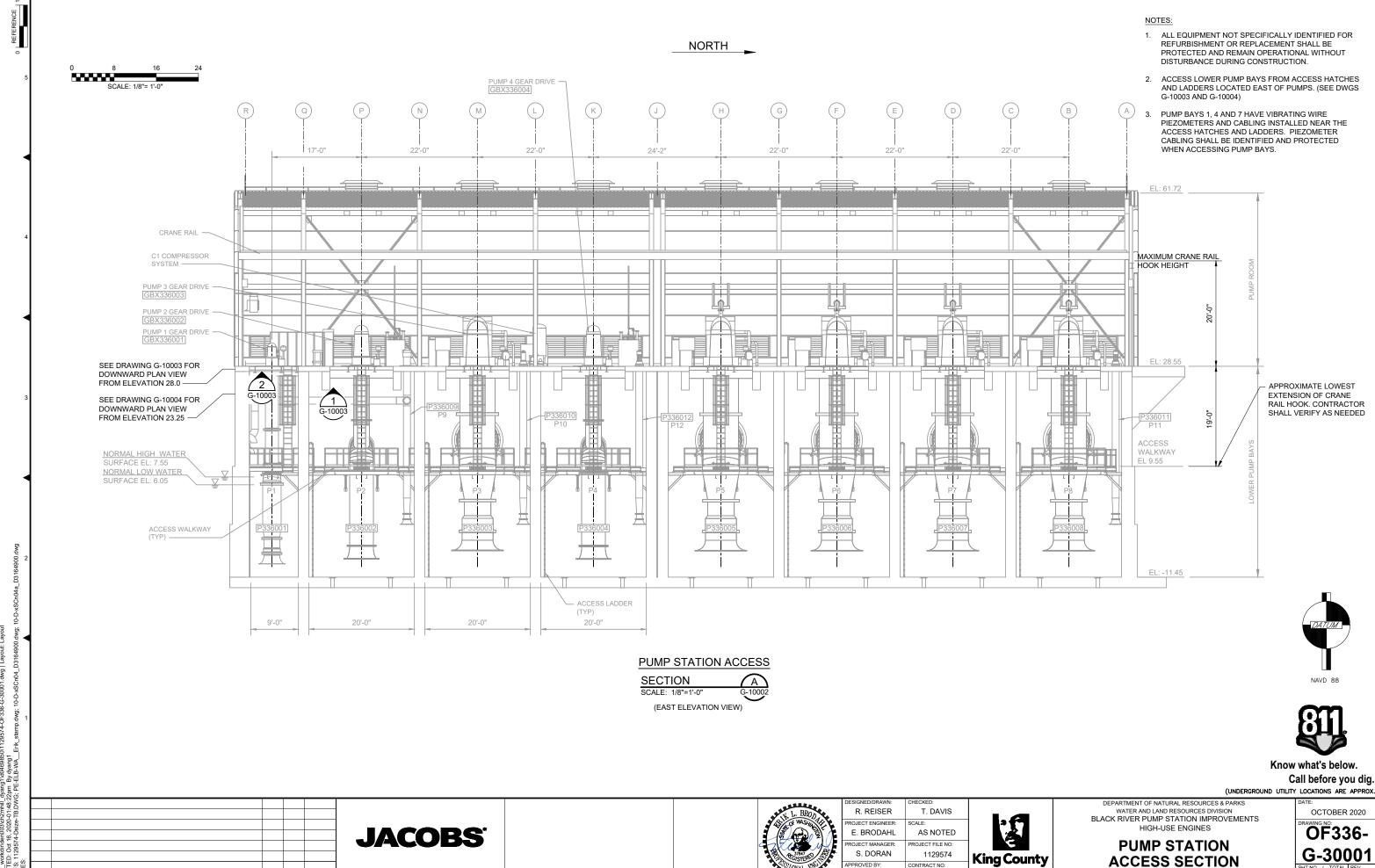
PUMP BAY ACCESS WALKWAY PLAN

OCTOBER 2020

DRAWING NO:

OF336
G-10004

SHT NO / TOTAL REV
9 58 NO: 0

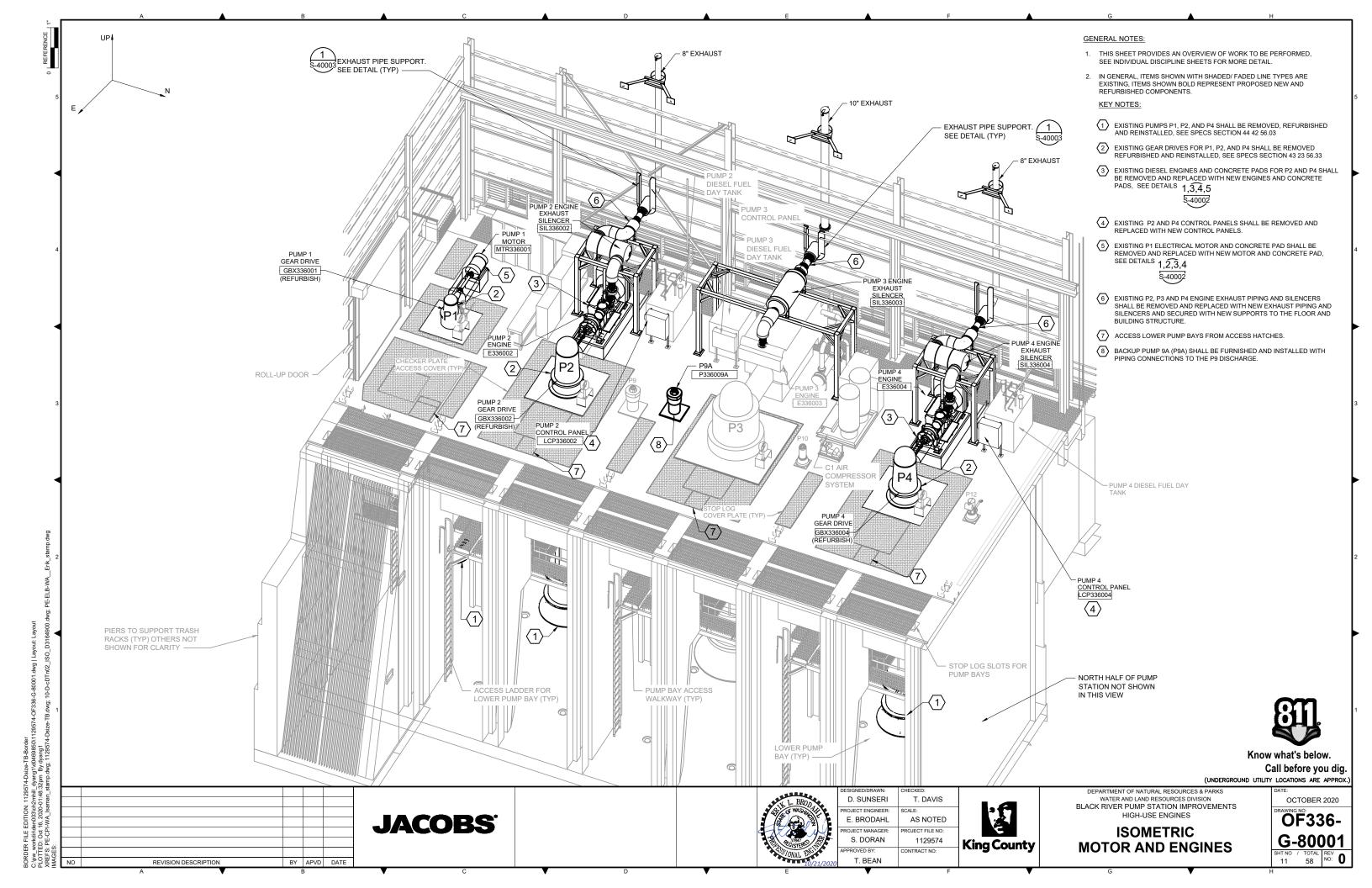


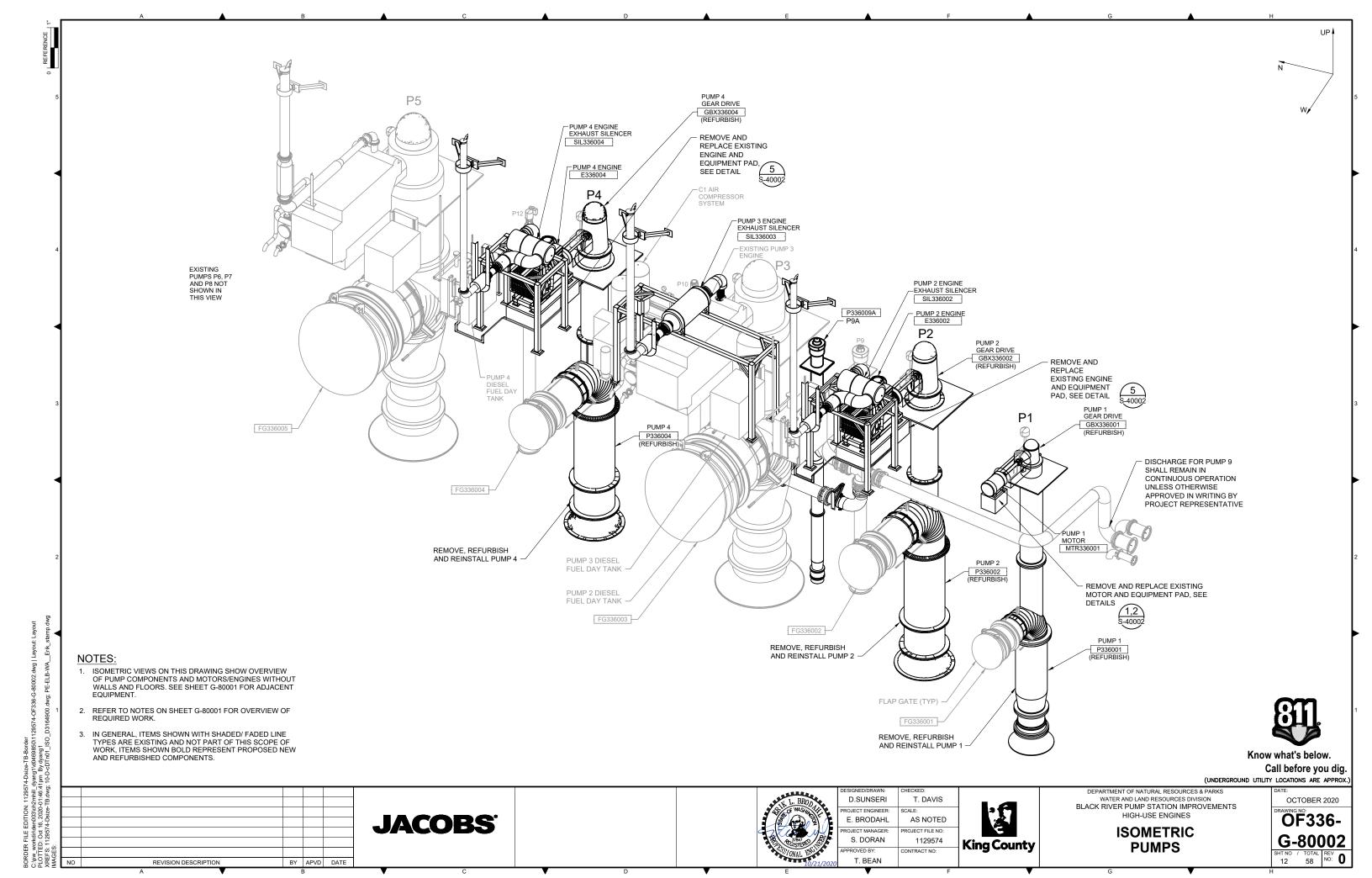
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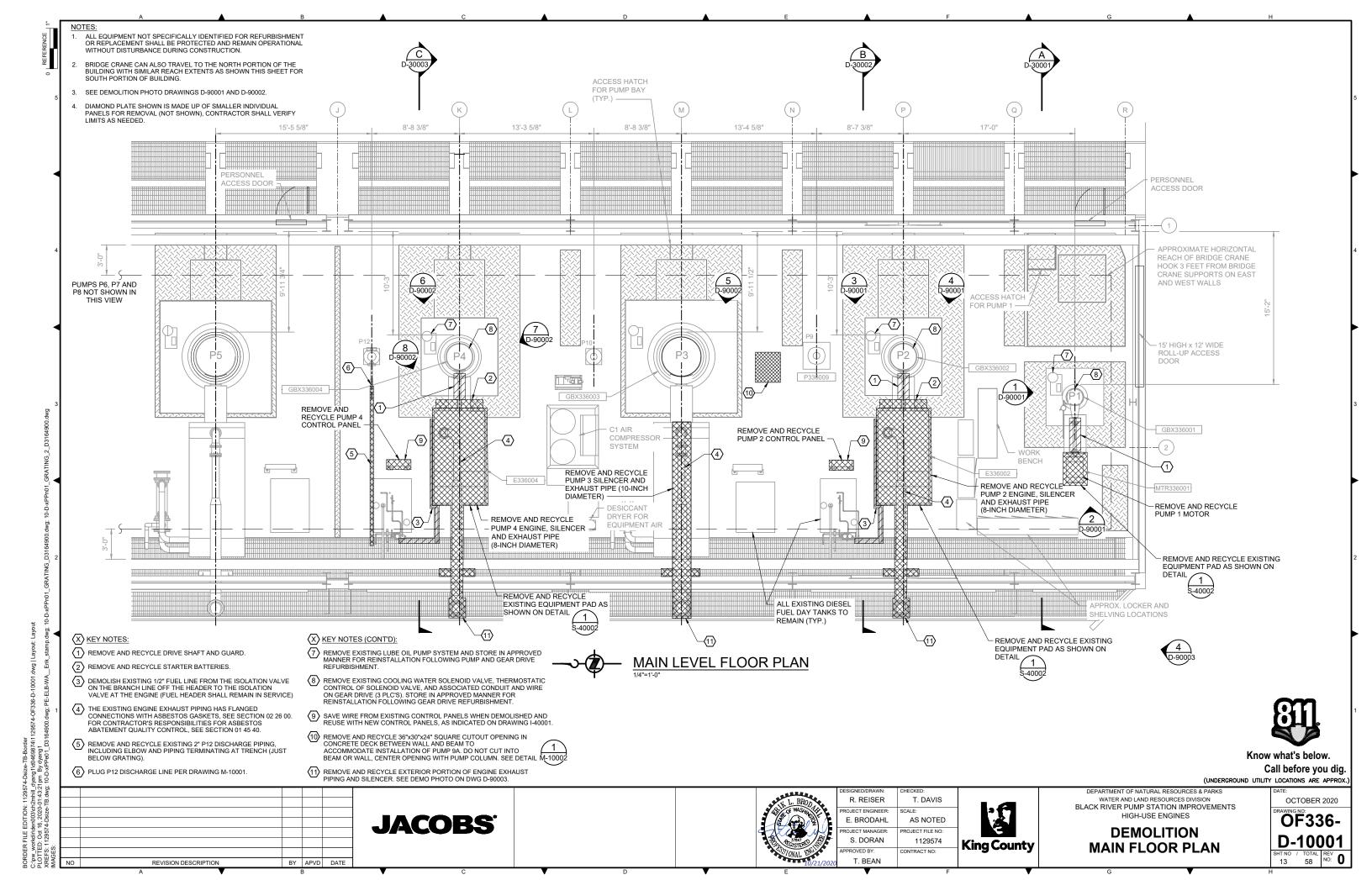
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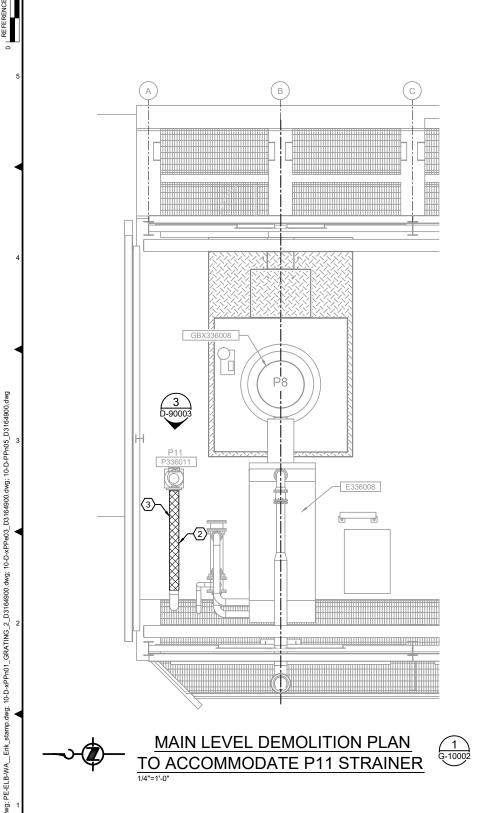
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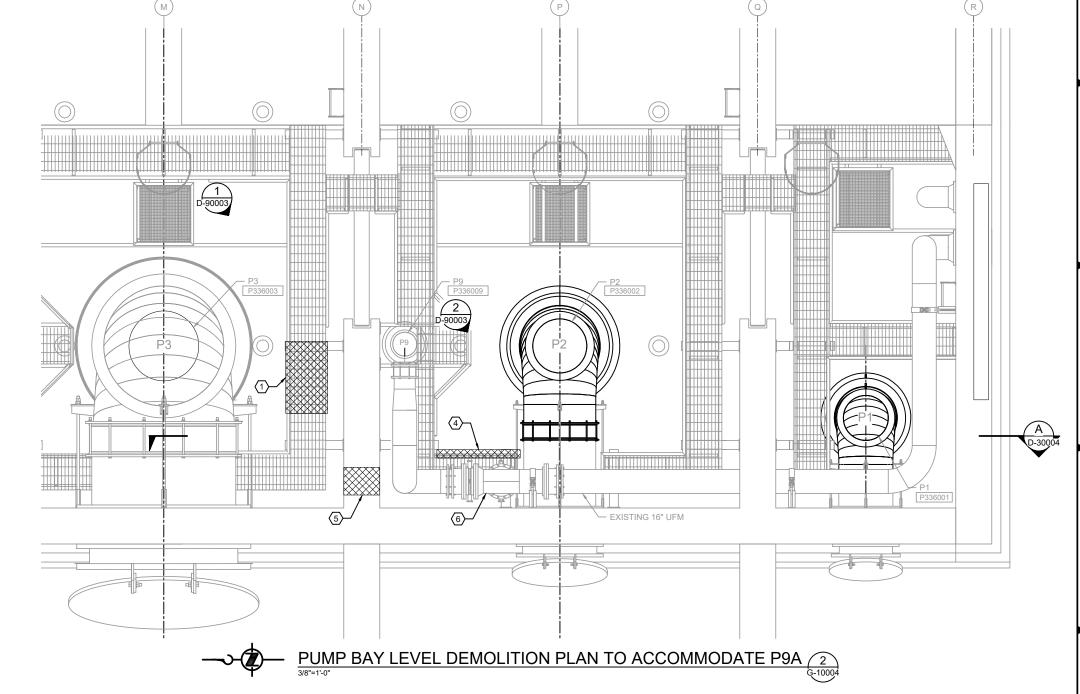
BY APVD DATE











- EXISTING STEEL PIPING AND WALKWAY/RAILING IS COATED WITH RED LEAD PAINT. REFER TO SPECIFICATION 02 26 00 FOR REQUIRED SUBMITTAL OF ABATEMENT AND DISPOSAL PLAN PRIOR TO BEGINNING DEMOLITION WORK
- 2. WHERE EXISTING ANCHORS OR SUPPORTS MUST BE REMOVED, CUT INTO WALL TO DEPTH INDICATED AND PATCH WITH EPOXY PER SECTION 03 83 00.

KEY NOTES:

- REMOVE AND RECYCLE SECTION OF WALKWAY INCLUDING RAILING AND KICK PLATE, TO ACCOMMODATE THE NEW PUMP 9A. RETAIN EXISTING GRATING SUPPORT BELOW WALKWAY.
- (2) REMOVE AND RECYCLE SECTION OF EXISTING 8" DIAMETER P11 DISCHARGE PIPING, FROM PUMP DISCHARGE TO NEAR THE VERTICAL 90 DEGREE BEND INTO TRENCH, TO ACCOMMODATE NEW P11 STRAINER. THE PIPE IS STANDARD WEIGHT SEAMLESS STEEL PER THE RECORD DOCUMENTS.

- (3) REMOVE EXISTING FLOW SWITCH (FS336011) FOR INSTALLATION IN NEW PUMP DISCHARGE PIPING.
- ${\Large \textcircled{4}}$ REMOVE EXISTING HANDRAIL AND KICK PLATE.
- (5) CORE DRILL 18" DIAMETER HOLE IN PUMP BAY WALL TO ACCOMMODATE PROPOSED 16" DIAMETER DISCHARGE PIPE
- (6) TEE AND BUTTERFLY VALVES WILL BE CUT INTO EXISTING PUMP P9 DISCHARGE PIPING IN JANUARY 2021 (BY OTHERS).

Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX. DEPARTMENT OF NATURAL RESOURCES & PARKS

REVISION DESCRIPTION BY APVD DATE

JACOBS



| ESIGNED/DRAWN: | CHECKED: | |
|------------------|------------------|------------|
| R. REISER | T. DAVIS | |
| ROJECT ENGINEER: | SCALE: | |
| E. BRODAHL | AS NOTED | |
| ROJECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | k |
| PPROVED BY: | CONTRACT NO: | ' ' |
| T. BEAN | | |

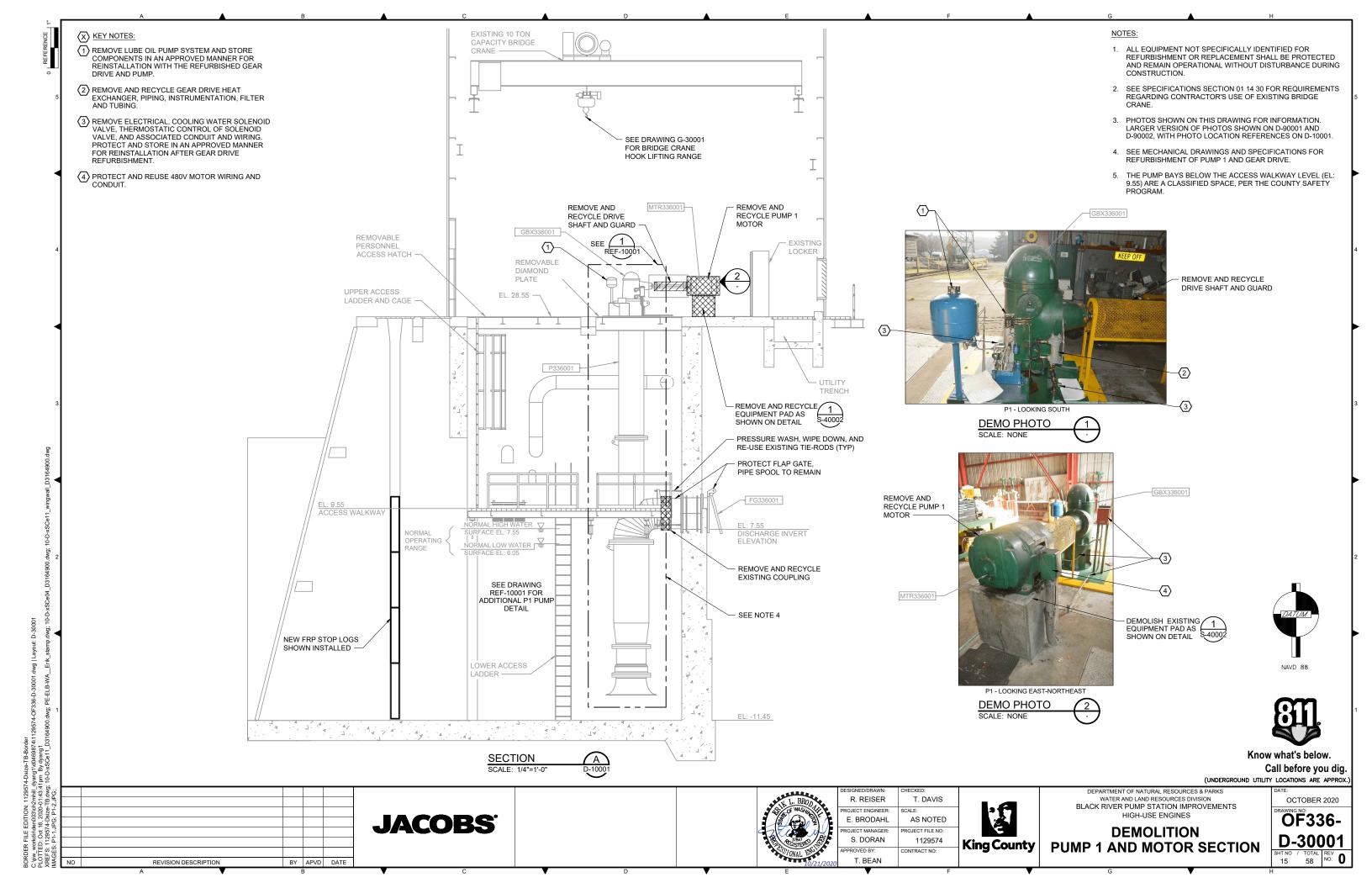


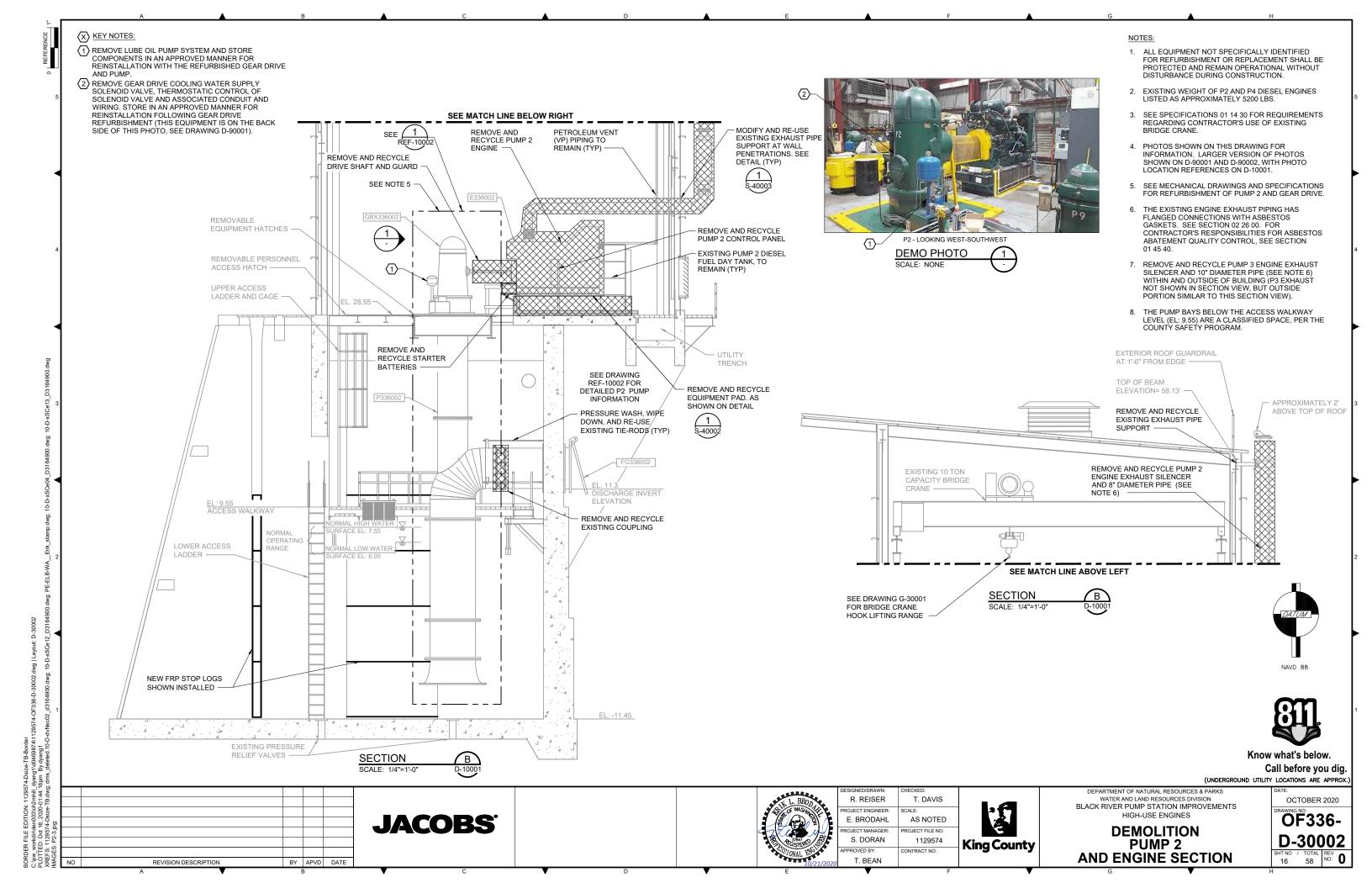
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

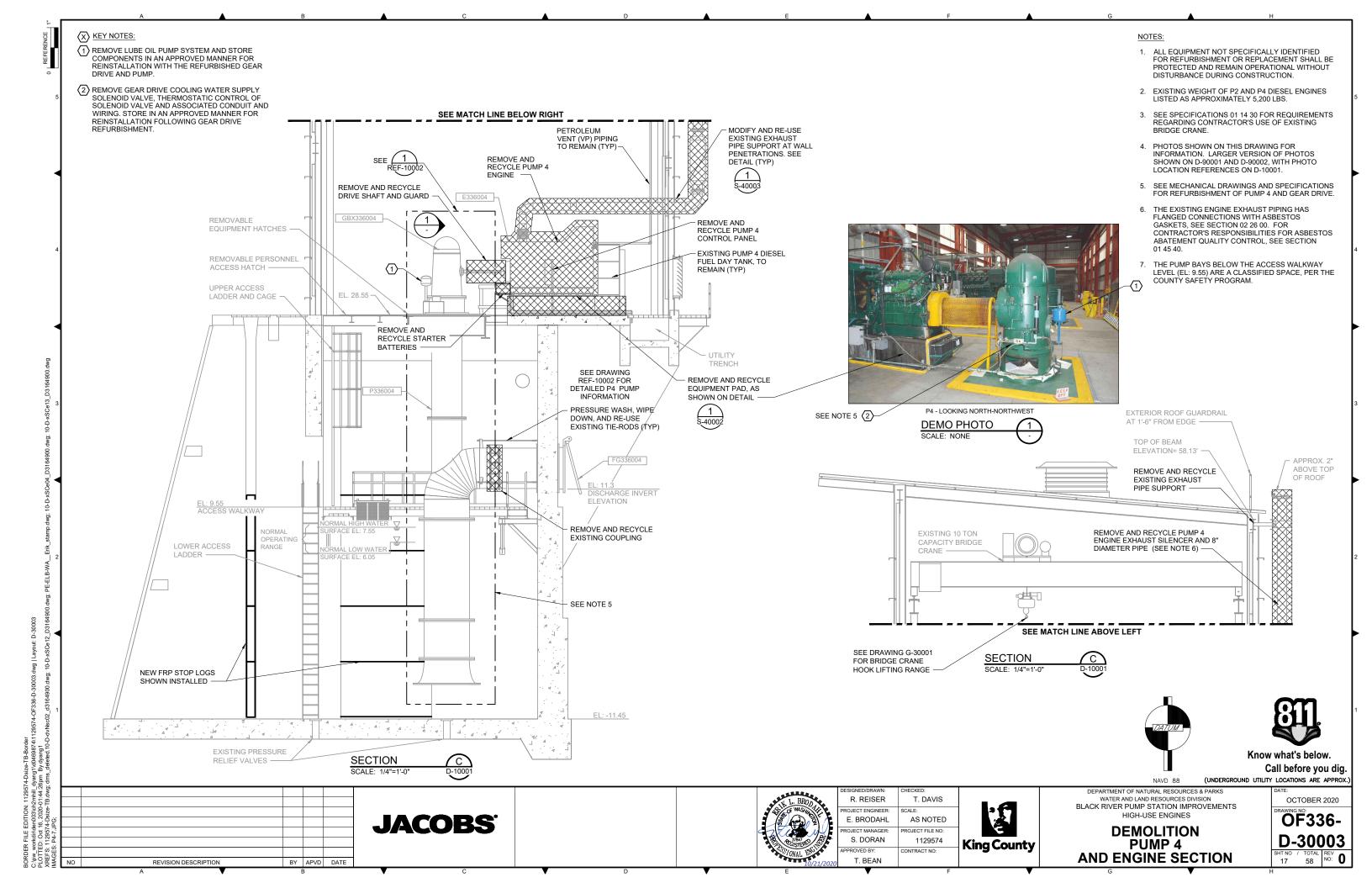
DEMOLITION

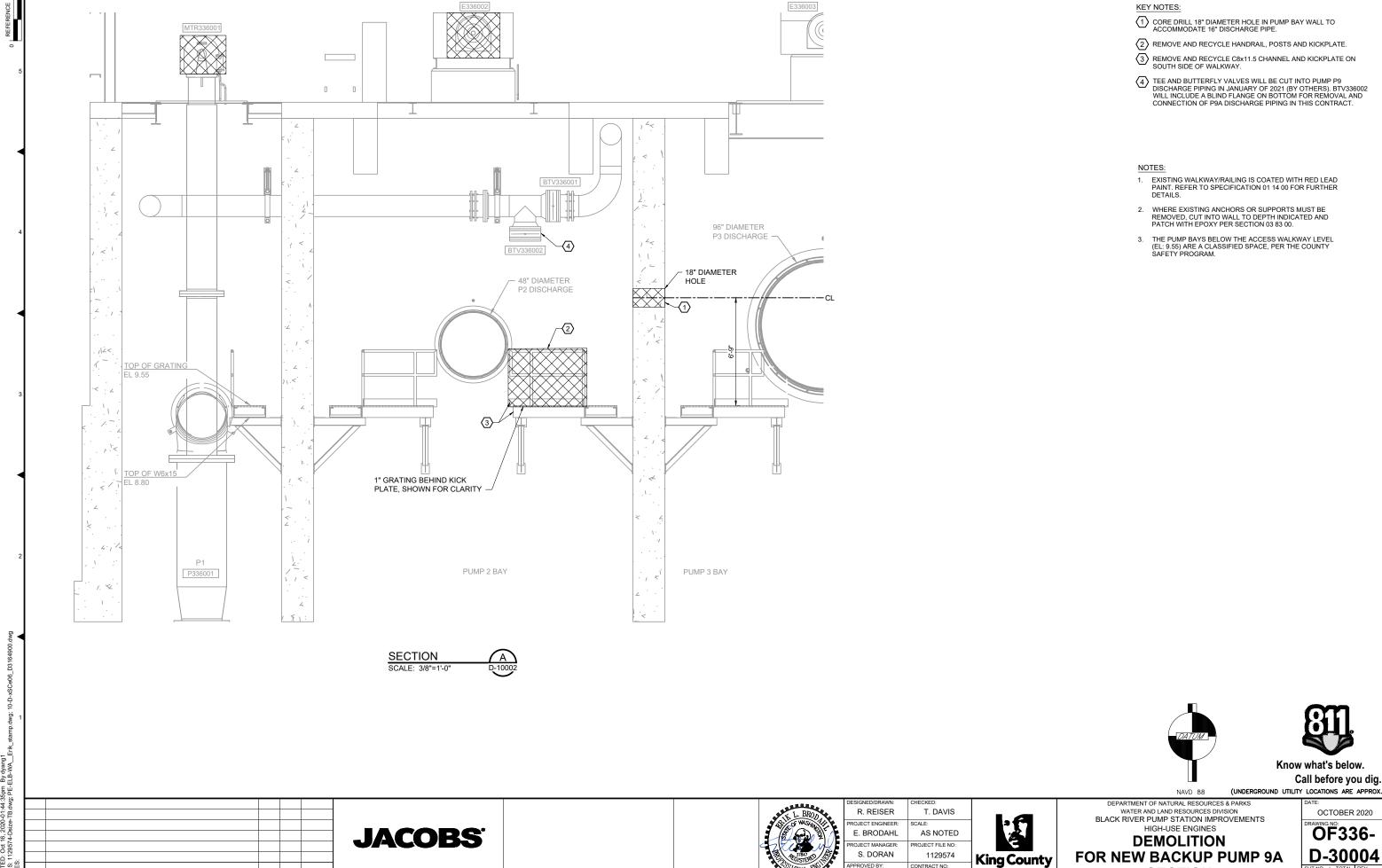
King County PLAN VIEW TO ACCOMMODATE P9A AND P11 STRAINER

OCTOBER 2020 **OF336-**D-10002 14 58 REV NO: **0**







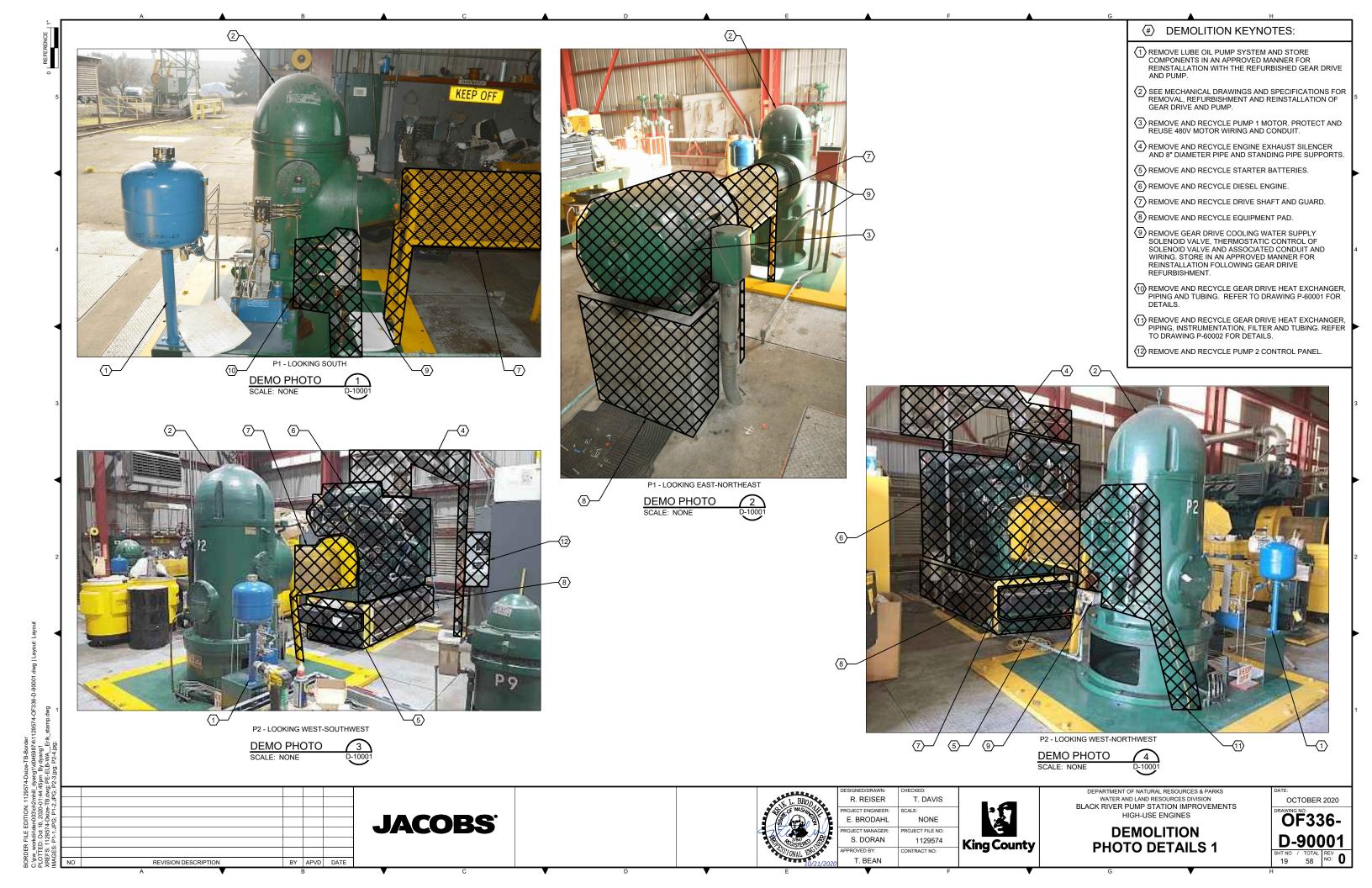


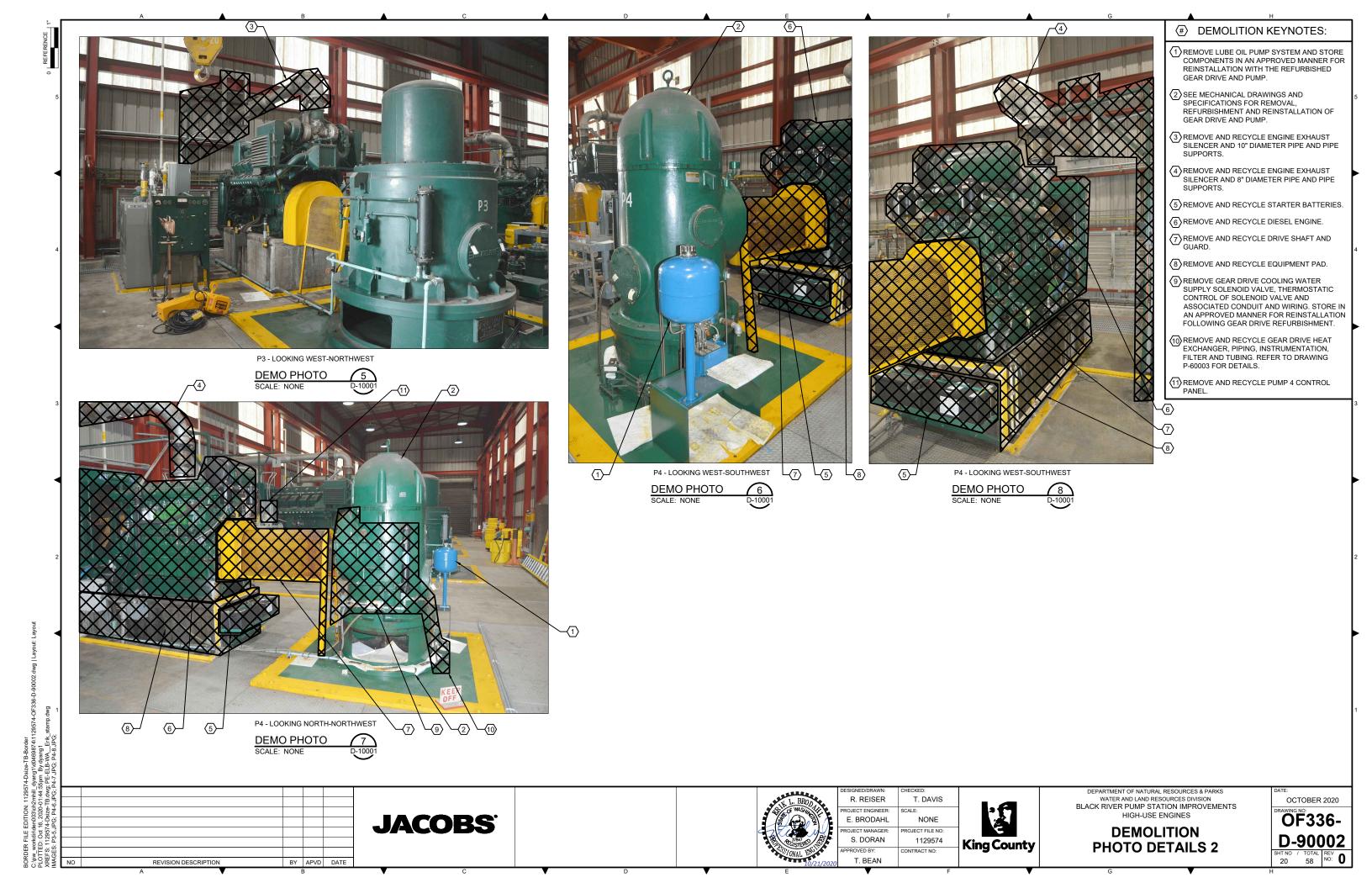
REVISION DESCRIPTION

BY APVD DATE

D-30004 18 58 REV NO: **0**

SECTION





REMOVE AND RECYCLE EXISTING C8x11.5 CHANNEL AND KICKPLATE ON SOUTH SIDE OF WALKWAY REMOVE AND RECYCLE HANDRAIL

RETAIN GRATING

REMOVE AND RECYCLE KICKPLATE

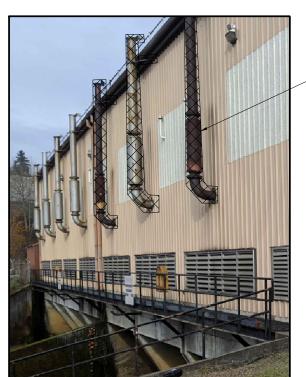
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REMOVE AND RECYCLE
HANDRAIL, GRATING
AND KICK PLATE

DEMO PHOTO SCALE: NONE RETAIN EXISTING

PII

DEMO PHOTO
SCALE: NONE
D-10002



DEMO BHOT

- REMOVE AND RECYCLE SILENCER, ENGINE EXHAUST PIPING AND SUPPORTS (TYP OF 3)

DEMO PHOTO

D-100

NO REVISION DESCRIPTION BY APVD DATE

REMOVE AND RECYCLE SECTION OF P11 DISCHARGE PIPE. RELOCATE EXISTING P11 FLOW SWITCH TO NEW INSTALLATION

JACOBS



| DESIGNED/DRAWN: | CHECKED: |
|-------------------|------------------|
| R. REISER | T. DAVIS |
| PROJECT ENGINEER: | SCALE: |
| E. BRODAHL | NONE |
| PROJECT MANAGER: | PROJECT FILE NO: |
| S. DORAN | 1129574 |
| APPROVED BY: | CONTRACT NO: |
| T. BEAN | |

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

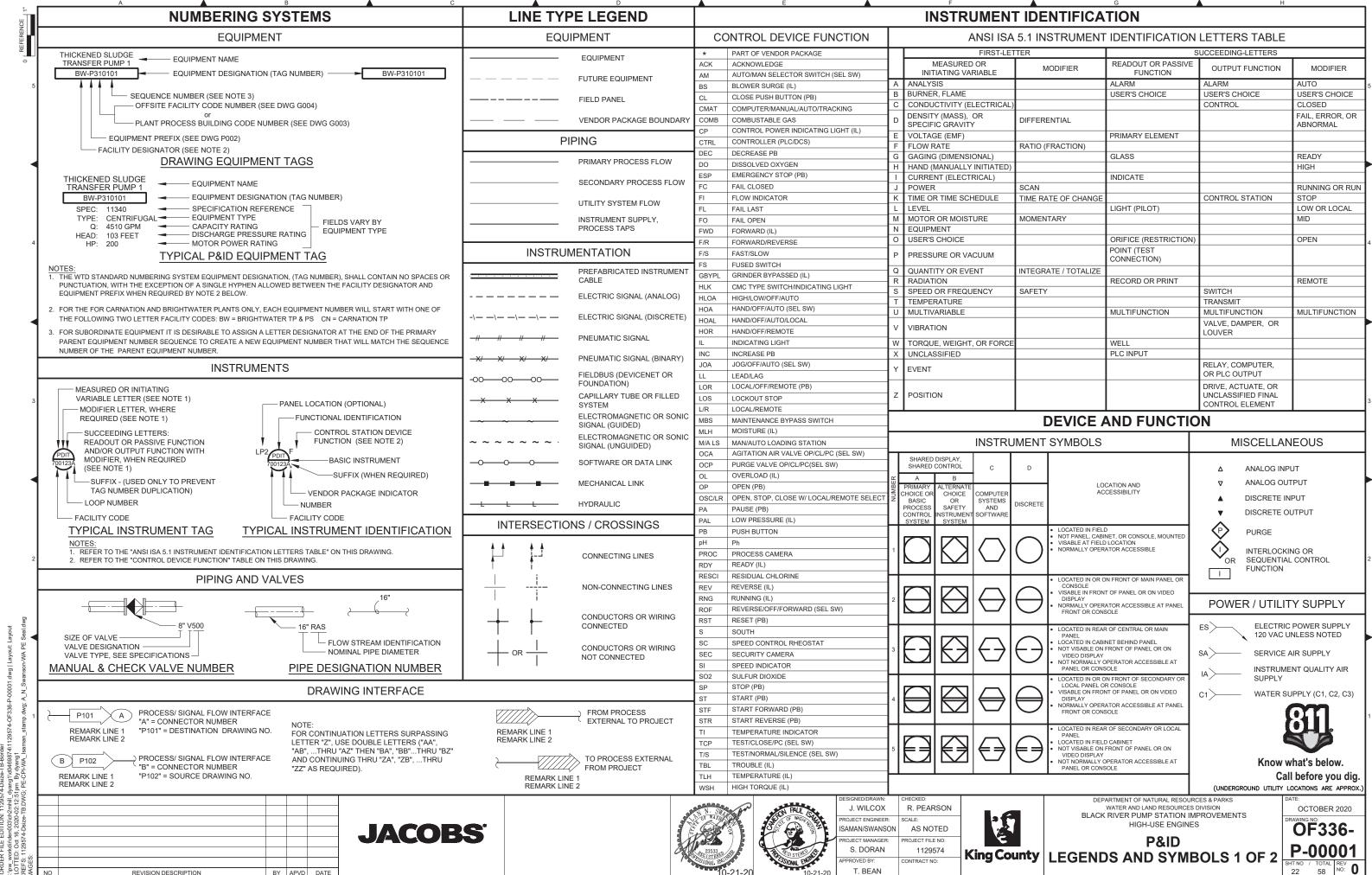
DEMOLITION PHOTO DETAILS 3

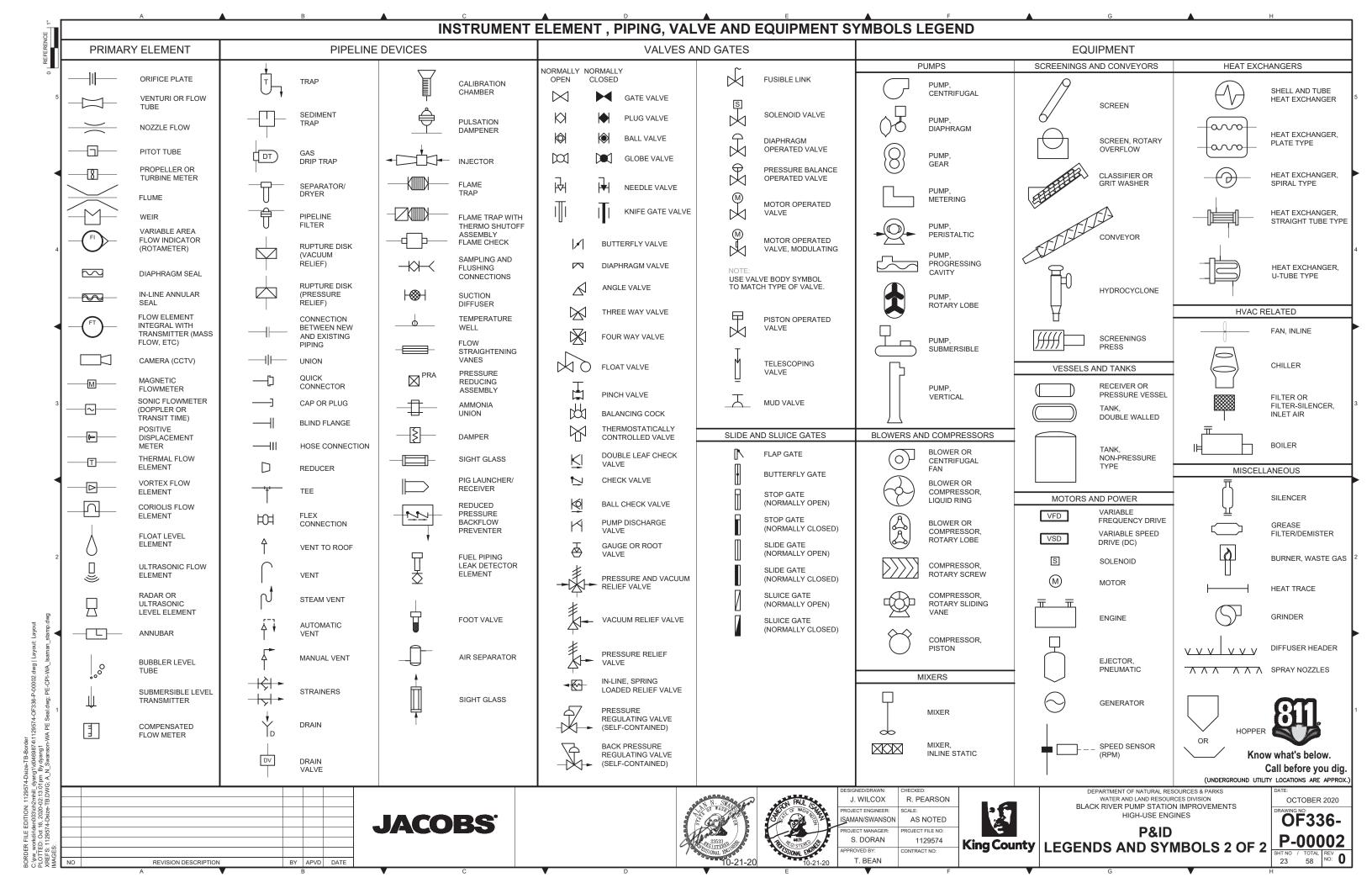
OCTOBER 2020

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D-90003

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|-----------------|----------------------------------|-------|----------------------------|------------|---|-----------|--------------------------------|----------|---------------------------|-----------------|--|----------|---|--------------|-----------------------------|-----------------------------------|
| | MECHANICA | L EQL | JIPMENT | | | | PIPING SYSTEMS | | | EL | ECTRICAL EQUIPMENT | | INSTRUM | ENTA | TION | |
| AC | AFTERCOOLER | MBR | MEMBRANE BIOREACTOR | C1 | POTABLE DOMESTIC WATER | \neg | | T | | ANN | ANNUNCIATOR | Α | ALARM | PIT | PRESSURE IND | DICATING XMITTER |
| ACC | ACCUMULATOR | ME | MISC EQUIPMENT (GENERAL) | C2 | NONPOTABLE DOMESTIC WATER | | | | | APC | ACTIVE POWER CONDITIONER | AE | ANALYZING ELEMENT | PLC | PROGRAMMABI | BLE LOGIC CNTRLER |
| ACT | ACTUATOR | MM | MECHANICAL MISCELLANEOUS | C2HP | | | | <u> </u> | | ASC | ADJUSTABLE SPEED CONTROLLER | Al | ANALYSIS INDICATOR | PS | PRESSURE SWI | |
| ACU | AIR CONDITIONING UNIT | MOCU | | C4 | LANDSCAPE IRRIGATION | | | - | | ASD | ADJUSTABLE SPEED DRIVE | AIT | ANALYSIS INDICATING XMITTER | PSH | PRESSURE SWI | |
| AD AHU | AIR DRYER AIR HANDLING UNIT | MX | MIXER | CD | CHEMICAL DRAIN | | | - | | ATS | AUTOMATIC TRANSFER SWITCH | AIU | ANALYTICAL MULTIFUNCTION INSTR ANALYSIS RECORDER | PSHH PSHL | | /ITCH HIGH-HIGH /ITCH HIGH-LOW |
| AST | ABOVE GROUND FUEL STORAGE TANK | . NA | NOISE ATTENUATOR | DH | DOMESTIC HOT WATER | - | + | + | | BAT | BATTERY | ASH | ANALYSIS SWITCH HIGH | PSL | PRESSURE SWI | |
| | | 1 | | DR | DRAIN | | | 1 | | BKR | CIRCUIT BREAKER | AT | ANALYSIS TRANSMITTER | PSLL | PRESSURE SWI | |
| | | 0 | FLOW RESISTANCE ORIFACE | DSF | DIESEL FUEL | | | | | | | | | | | |
| В | BLOWER | OCU | ODOR CONTROL UNIT | | | | | | | CAB | CABINET | ESH | VOLTAGE SWITCH HIGH | QC | EVENT CONTRO | OLLER |
| BAC | BACKFLOW PREVENTER | ORT | ODOR REDUCTION TOWER | ECW | EQUIPMENT COOLING WATER | | | - | | CAP | CAPACITOR | ET | INSTRUMENTATION MISC | QL | EVENT LAMP | |
| BLR | BOILER | +- | DUMP | EE | ENGINE EXHAUST | _ | | - | | CHG | BATTERY CHARGER | | ELOW ELEMENT | Bu | DUECOTAT | |
| C | CRANE | PG | PUMP PRESSURE GAGE | F | FLOAT | | | | | CLK | CLOCK CONTACTOR | FE FI | FLOW ELEMENT FLOW INDICATOR | RH RTU | RHEOSTAT REMOTE TELEN | METRY LINIT |
| cc | COOLING COIL | PVL | PRESSURE VESSEL | FD. | FOUNDATION DRAIN | | | 1 | | OIVIIX | CONTROLOR | FIC | FLOW INDICATING CONTROLLER | 1110 | TEMOTE TEELN | TETTO OTT |
| CDR | CONDENSING UNIT | | | FOR | FUEL OIL RETURN | | | | | DC | DC POWER SUPPLY | FIT | FLOW INDICATING TRANSMITTER | sc | SPEED CONTRO | OLLER |
| CFG | CENTRIFUGE | RAD | RADIATOR | FOS | FUEL OIL SUPPLY | | | | | DS | DISCONNECT SWITCH | FQIS | FLOW TOTALIZING IND SWITCH VLV | SD | SMOKE DETECT | TOR |
| CFR | CHEMICAL FEEDER | RD | RUPTURE DISC | FP | FIRE PROTECTION | | | | | | | FS | FLOW SWITCH | SDR | SMOKE DETECT | TOR RECEIVER |
| CHL | FLOW CHANNEL | RES | RESERVOIR | | | | | | | ECL | ELECTRICAL CONTROL SYSTEM | FSH | FLOW SWITCH HIGH | SDT | _ | TOR TRANSMITTER |
| CHR | CHILLER CONVEYOR | RPBP | RED PRES BACKFLOW PREVENTO | OR HRR | HEAT RESERVOIR RETURN HEAT RESERVOIR SUPPLY | +- | | - | | EM EP | ELECTRICAL MISCELLANEOUS ELECTRO-PNEUMATIC SWITCH | FSL | FLOW SWITCH LOW FLOW TRANSMITTER | SE SI | SPEED SENSING SPEED INDICAT | |
| CPR | COMPRESSOR | s | SILENCER | HW | HOT WATER | + | | + | | - Lr | ELECTRO-I NEOWATIO GWITOII | FY | FLOW CONVERTER | SIC | | TING CONTROLLER |
| CRU | CONDENSATE RETURN UNIT | SCN | SCREEN | | 110111111111111111111111111111111111111 | | | | | FA | FIRE ALARM | | | SIT | | TING TRANSMITTER |
| CU | CONTROL UNIT | SCR | SCRUBBER | IA | INSTRUMENT AIR | | | | | FAT | FIRE ALARM TERMINAL | G | MONITOR | SMP | PROCESS SAME | PLER |
| CYL | CYLINDER | SEP | SEPARATOR | | | | | | | FSS | FUSED SWITCH | GM | GAS MONITOR | SS | SPEED SWITCH | 4 |
| | | SF | SUPPLY FAN | JWR | JACKET WATER RETURN | | | | | FZS | FREEZE STAT | | | SSL | SPEED SWITCH | LOW |
| | | SFT | PERSONAL SAFETY EQMT | JWS | JACKET WATER SUPPLY | _ | | - | | + | | HIK | HAND INDICATING CONTROLLER | SY | SPEED RELAY | |
| DF DH | DEMISTER FILTER DUCT HEATER | + | TANK | LOR | LUBE OIL RETURN | | | - | | G | GENERATOR | HK | HAND CONTROLLER | TE | TEMPERATURE | |
| DIG | DIGESTER | TBN | TURBINE | LOS | LUBE OIL SUPPLY | | | - | | HMI | HUMAN MACHINE INTERFACE | IA | AIR INSTRUMENT | TI | TEMPERATURE | |
| DPR | DAMPER | TH | BULB THERMOMETER | - 1200 | 2022 012 001 1 21 | | | 1 | | HRN | HORN | ICP | INSTRUMENT CONTROL PANEL | TS | TEMPERATURE | |
| DT | DRAIN TRAP | | | | | | | | | HS | HAND SWITCH | ICS | INSTRUMENT CONTROL STATION | TSH | TEMPERATURE | |
| DU | DRIVE UNIT | UST | UNDERGROUND FUEL STORAGE T | TK PD | PUMPED DRAINAGE | | | | | | | П | CURRENT ISOLATOR | TSL | TEMPERATURE | SWITCH LOW |
| | | | | PDR | PROCESS DRAIN | _ | | <u> </u> | | JB | JUNCTION BOX | IL | INSTRUMENT LOOP | TIT | | E INDICATOR XMITTE |
| E | ENGINE | VV | VALVE VAULT | | | | | - | | JWH | JACKET WATER HEATER | 10 | INPUT/OUTPUT MODULE | TT | TEMPERATURE | TRANSMITTER |
| EG EG | EXHAUST FAN ENGINE GENERATOR SET | WE | WEIGHT ELEMENT | RWP | RAINWATER PIPE | | | - | | LCP | LOCAL CONTROL PANEL | ISH | CURRENT-PRESSURE CONVERTER CURRENT SWITCH HIGH | 1 | MULTIVARIABLE | E INDICATOR |
| EPR | EVAPORATOR EVAPORATOR | WH | WATER HEATER | | | | + | _ | | LP | LIGHTING PANEL | ISY | INTRINSIC SAFE RELAY | UR | MULTIPOINT RE | |
| | | | | SA | SERVICE AIR OR SUPPLY AIR | | | | | | | | | UU | MACHINE HEAL | |
| F | FAN | | | SD, S | TD STORM DRAIN | | | | | MBS | MAINTENANCE BYPASS SWITCH | JIC | POWER INDICATING CONTROLLER | | | |
| FLM | FLOWMETER | | | SDR | SANITARY DRAIN | | | | | MCC | MOTOR CONTROL CENTER | JX | POWER CONVERTER | VE | VIBRATION ELE | |
| FLT | FILTER | - | | SS | SANITARY SEWER | _ | | - | | MEE | MISCELLANEOUS ELECTRICAL EQUIP | 1 | 1.5.5 | VSH | VIBRATION SWI | |
| FMX FR | FLOW MIXER FLOW REGULATOR | - | | STA | STARTING AIR | - | | - | | MS MTR | MOTOR STARTER MOTOR | LAH | LEVEL ALARM HIGH LEVEL ELEMENT | VY | VIBRATION TRA | |
| FK | FLOW REGULATOR | | | TD | TANK DRAIN | | | - | | IVITE | MOTOR | LG | LEVEL GAGE | VT | VIBRATION REL | Ai |
| GBT | GRAVITY BELT THICKENER | | | | | | | | | PNL | PANEL | LI | LEVEL INDICATOR | WI | WEIGHT INDICA | ATOR |
| GBX | GEAR DRIVE | | | | | | | | | PWR | POWER SUPPLY | LIC | LEVEL INDICATING CONTROLLER | WS | TORQUE SWITC | ЭН |
| GDR | GRINDER | | | | | | | | | | | LIT | LEVEL INDICATING TRANSMITTER | WSH | TORQUE SWITC | |
| GV | GRAVITY RELIEF / INTAKE VENT | | | | | | | | | RCPT | RECEPTACLE, POWER RECEPTACLE | LR | LEVEL RECORDER | WSHH | TORQUE SWITC | 2H HIGH HIGH |
| | HOIST CHAIN HOIST | - | | | | | | - | | CLID | SUBSTATION | LS | LEVEL SWITCH | VI | LING! ASSISIED | LAMD |
| HC | HOIST, CHAIN HOIST HEATING COIL | | | _ | | + | | + | | SWBD | | LSHH | LEVEL SWITCH HIGH LEVEL SWITCH HIGH-HIGH | XL | UNCLASSIFIED | L AVII |
| HEX | HEAT EXCHANGER | | | | | \dashv | | UFM | UPSTREAM FISH MIGRATION | _ | SWITCHGEAR | LSHL | LEVEL SWITCH HIGH-LOW | YC | RELAY CLOSED |) - ADD |
| HP | HEAT PUMP | 1 | | | | | | | | | | LSL | LEVEL SWITCH LOW | YO | RELAY OPEN - A | |
| HPU | HYDRAULIC POWER UNIT | | | | | | VALVES | | | ТВ | TERMINAL BOX | LSLL | LEVEL SWITCH LOW-LOW | YS | VIBRATION SWI | ITCH |
| HRC | HEAT RECOVERY COIL | | | | | | | | | TC | THERMOCOUPLE | LX | SLUDGE BLANKET PROFILER | | | |
| HRR | HEAT RESERVOIR RETURN | + | | ARV | AIR RELEASE VALVE | GLV | GLOBE VALVE | SAV | SADDLE VALVE | TFR | TRANSFORMER | 1, | MOIOTURE OUTTOWNS | ZI | POSITION INDIC | |
| HRS HTR | HEAT RESERVOIR SUPPLY | | | AVV BTV | AIR VACUUM VALVE | GV KGV | GATE VALVE | SFTY | | TST | THERMOSTAT | MSH | MOISTURE SWITCH HIGH | ZS | POSITION SWIT | |
| HXT | HEATER HEAT EXTRACTOR | | | BV | BUTTERFLY BALL VALVE | KGV NV | KNIFE GATE VALVE NEEDLE VALVE | SLG | SLUICE GATE SLIDE GATE | TVSS | THERMOSTAT TRANSIENT SURGE SUPPRESSOR | PB | PUSH BUTTON [ALSO HS] | ZSC | POSITION SWIT | |
| HYDR | FIRE HYDRANT | | | CCV | CERAMIC COATED VALVE | PIV | PILOT VALVE | SRV | SURGE RELIEF VALVE | + | | PC | PRESSURE CONTROLLER | ZSL | POSITION SWIT | |
| | | | | CHV | CHECK VALVE | PLV | PLUG VALVE | SV | SOLENOID VALVE | UH | UNIT HEATER | PDI | PRESSURE DIFFERENTIAL INDICAT | ZSO | POSITION SWIT | |
| LD | LEAK DETECTOR | | | CV | CONTROL VALVE | PPV | POPPET VALVE | TMV | THERMOSTATIC MIXING VALVE | UPS | UNINTERRUPTIBLE POWER SUPPLY | PDS | PRESSURE DIFFERENTIAL SWITCH | ZT | POSITION TRAN | ISMITTER |
| LVR | LOUVER | | | DCHV | | PRV | PRESSURE RELIEF VALVE | TXV | THERMAL EXPANSION VALVE | UV | ULTRAVIOLET UNIT | PDT | PRESSURE DIFFERENTIAL XMITTER | ZY | POSITION CON | |
| <u> </u> | | + | | DV | DIAPHRAGM VALVE | PV | PINCH VALVE | V | VALVE | +, | WARRIAN E ERECUENCY E E E | PE | PRESSURE ELEMENT | NOTE: | PREFIX'S TO BE P | PER ANSI ISA 5.1 TA |
| <u> </u> | | + | | FCV | FLOW CONTROL VALVE | RV | REDUCING / REGULATING VALVE | VAC | VACUUM BREAKER | VFD | VARIABLE FREQUENCY DRIVE | PI | PRESSURE INDICATING CNTDLED | /: 151 | יייי ייייי אייייי | / LOCATIONS ARE AR |
| <u> </u> | | | | | | | | | DESIGNE | VSD D/DRAWN: | VARIABLE SPEED DRIVE CHECKED: | PIC | PRESSURE INDICATING CNTRLER DEPARTMENT OF NATURAL RESOUR | | | LOCATIONS ARE AP |
| \vdash | | | | | | | | N. Sw. | | VILCOX | R. PEARSON | | WATER AND LAND RESOURCES | DIVISION | | OCTOBER 20 |
| | | | | | | | | | | ENGINEER: | SCALE: | | BLACK RIVER PUMP STATION IM HIGH-USE ENGINES | | IENIS | |
| \Box | | | | | COBS' | | | | | I/SWANSON | | | | | | , UF336 |
| $\vdash \vdash$ | | | | | | | XX | 23533 A | | MANAGER: | PROJECT FILE NO: 1129574 King Count | | P&ID | | | OF336 P-0000 |
| | | | | | | | | | | | | - 4 / 1 | | | | |

BY APVD DATE

REVISION DESCRIPTION



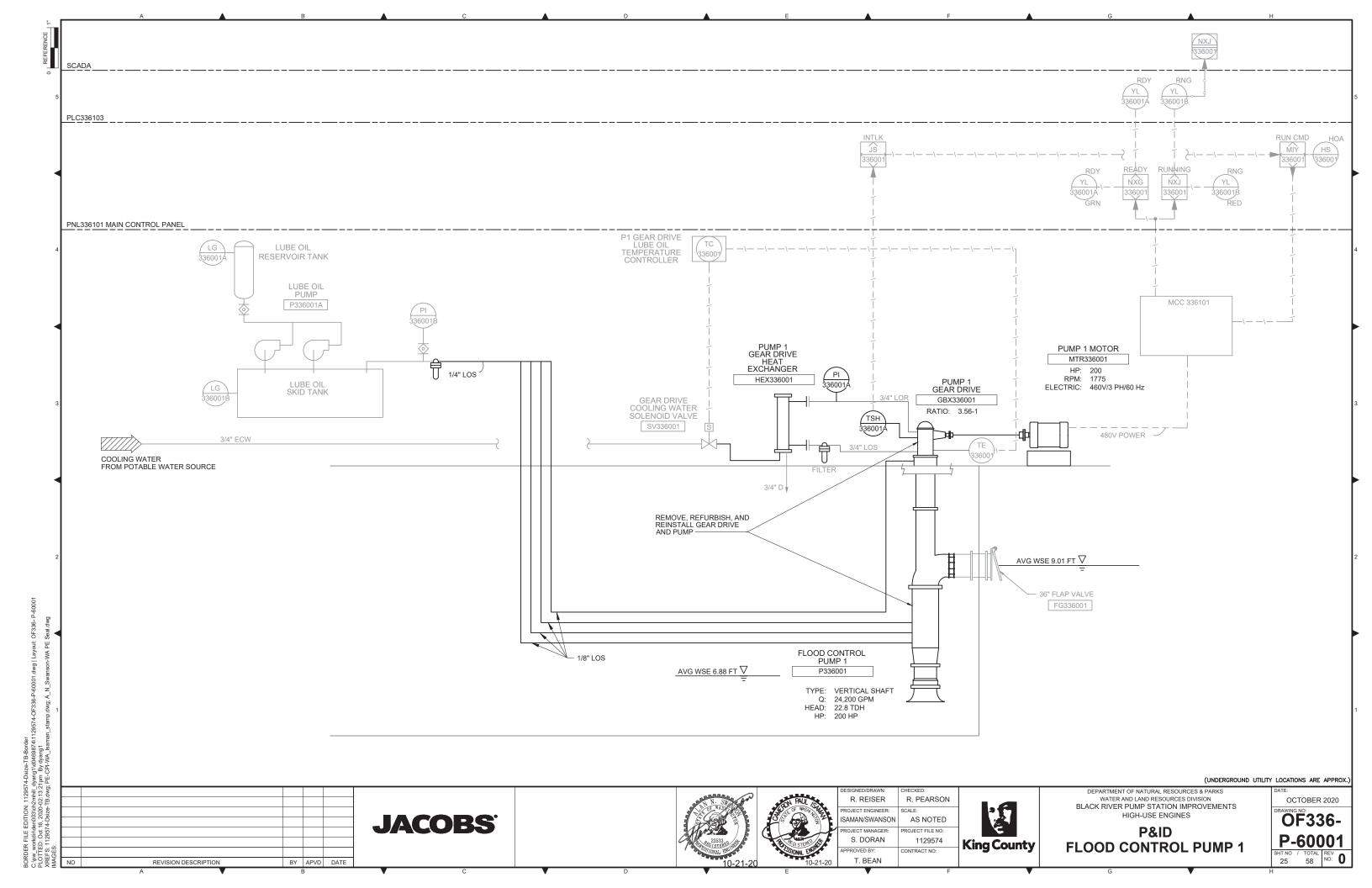


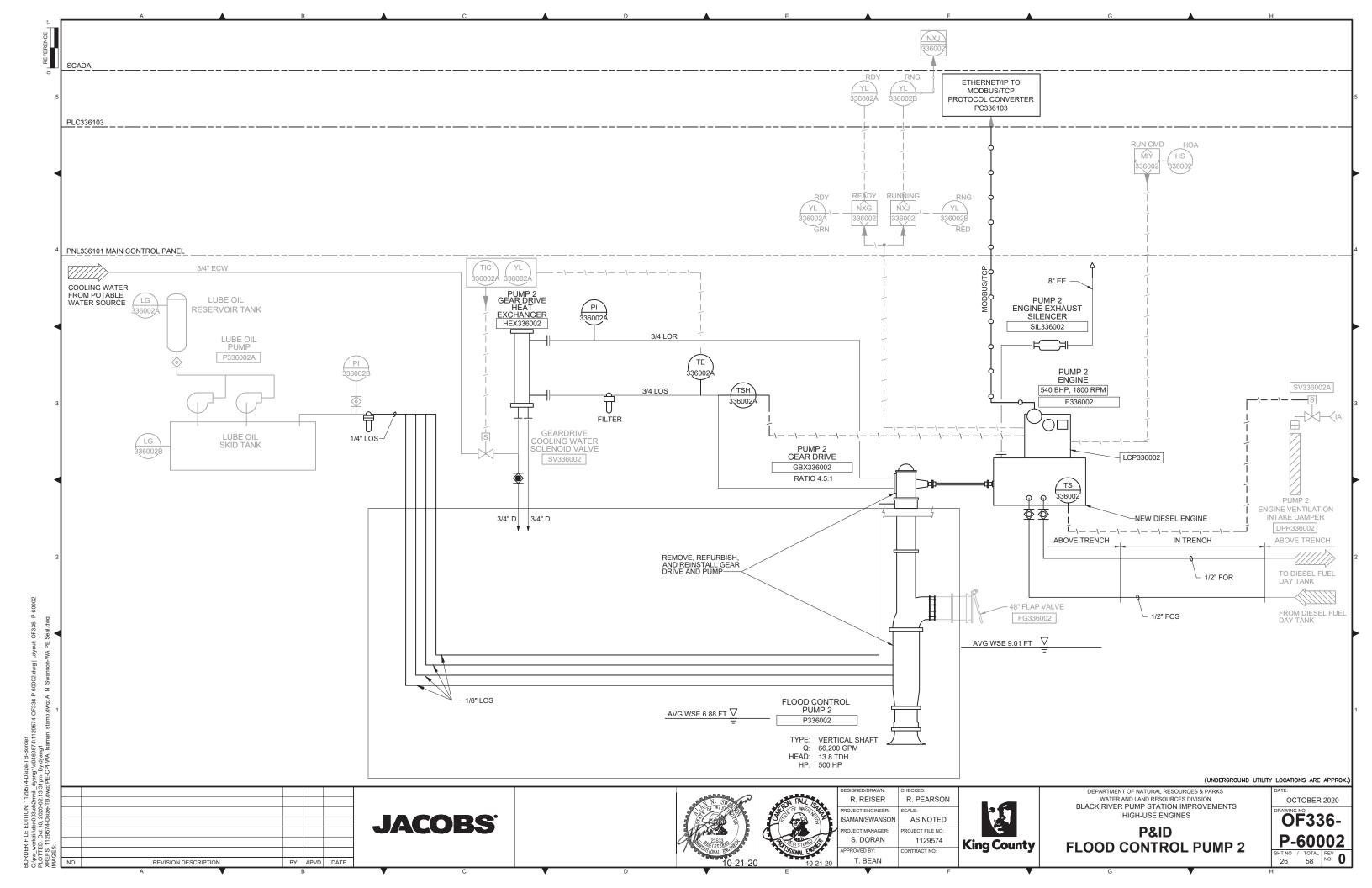
T. BEAN

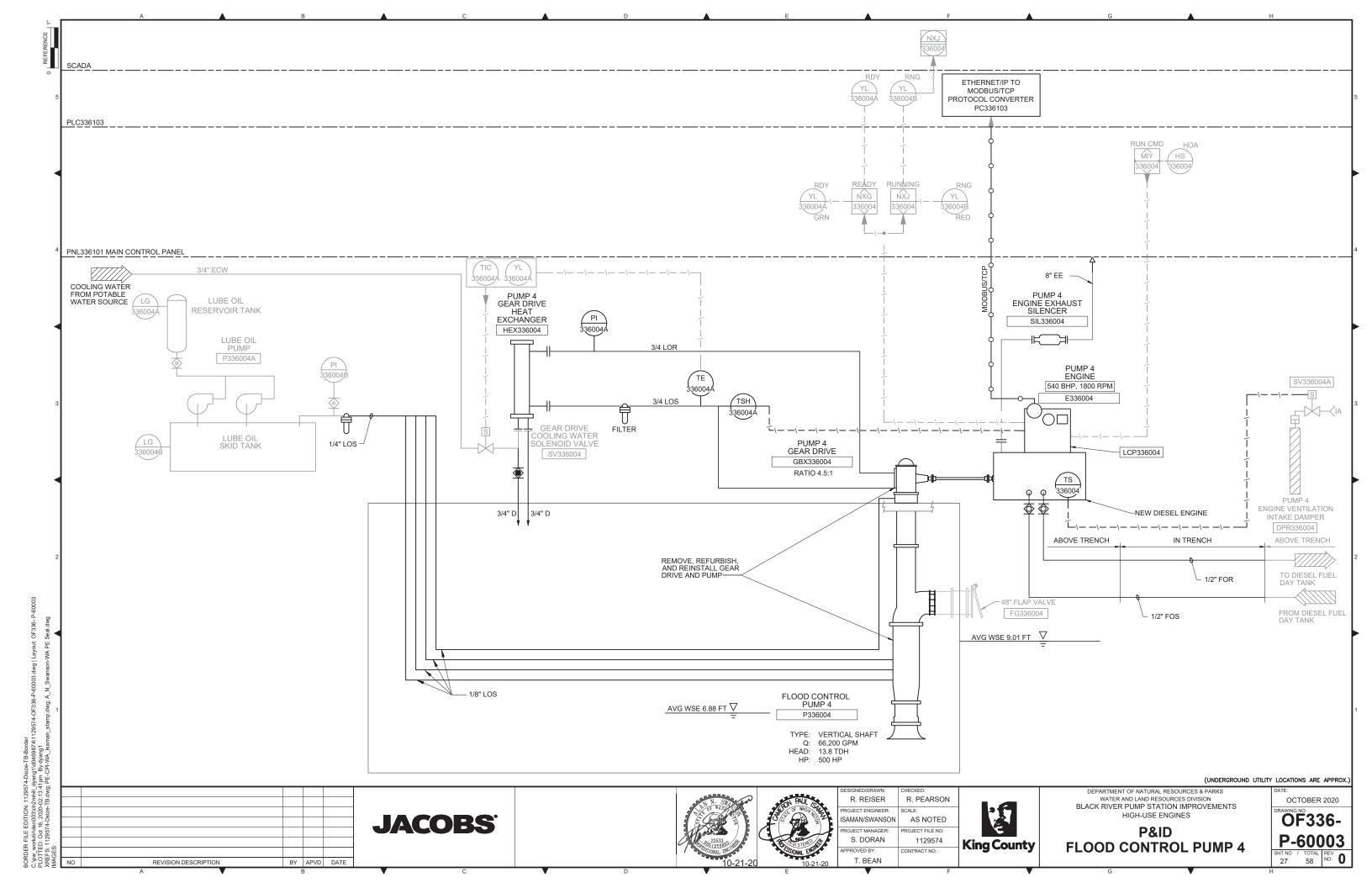
King County

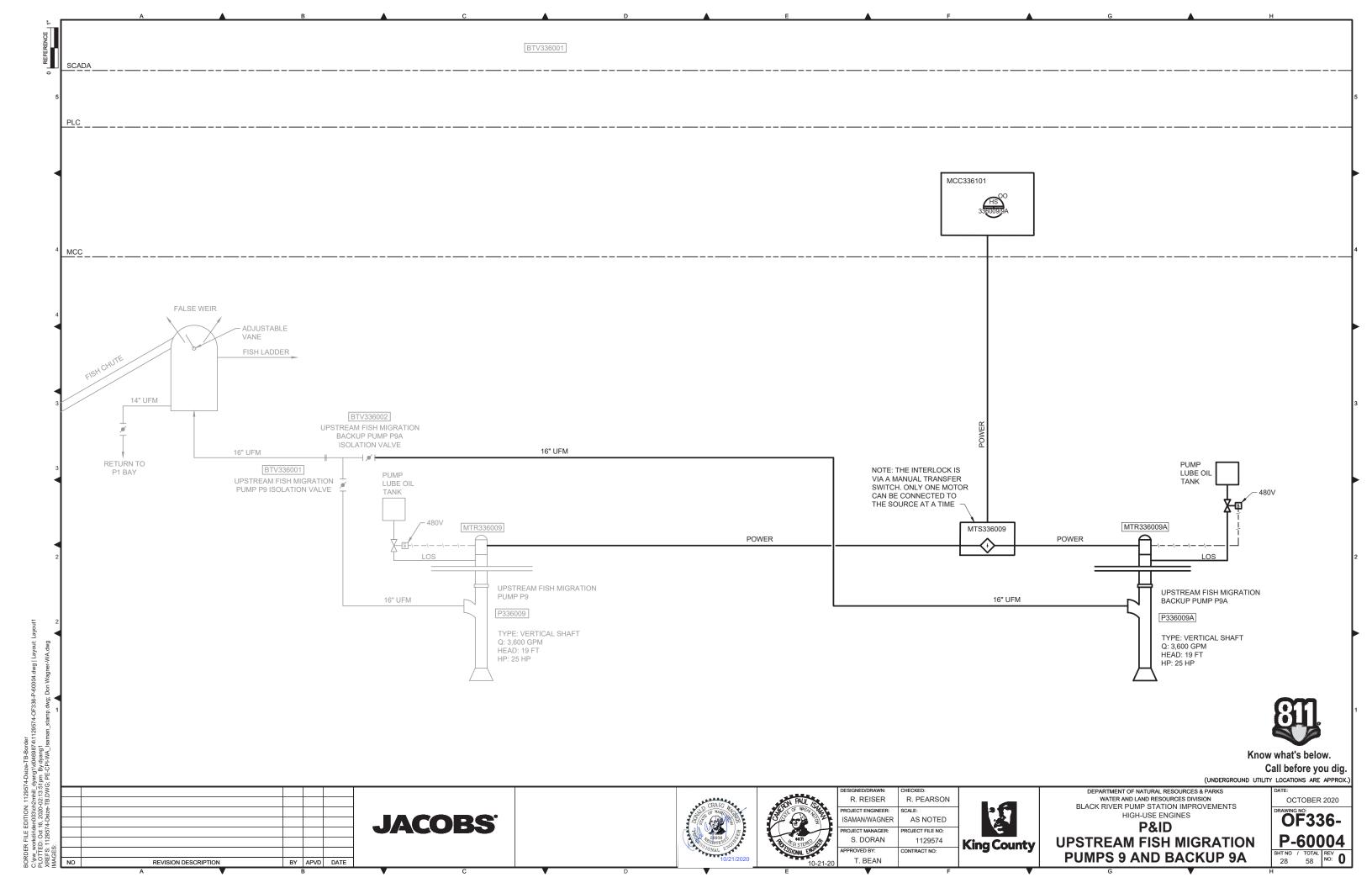
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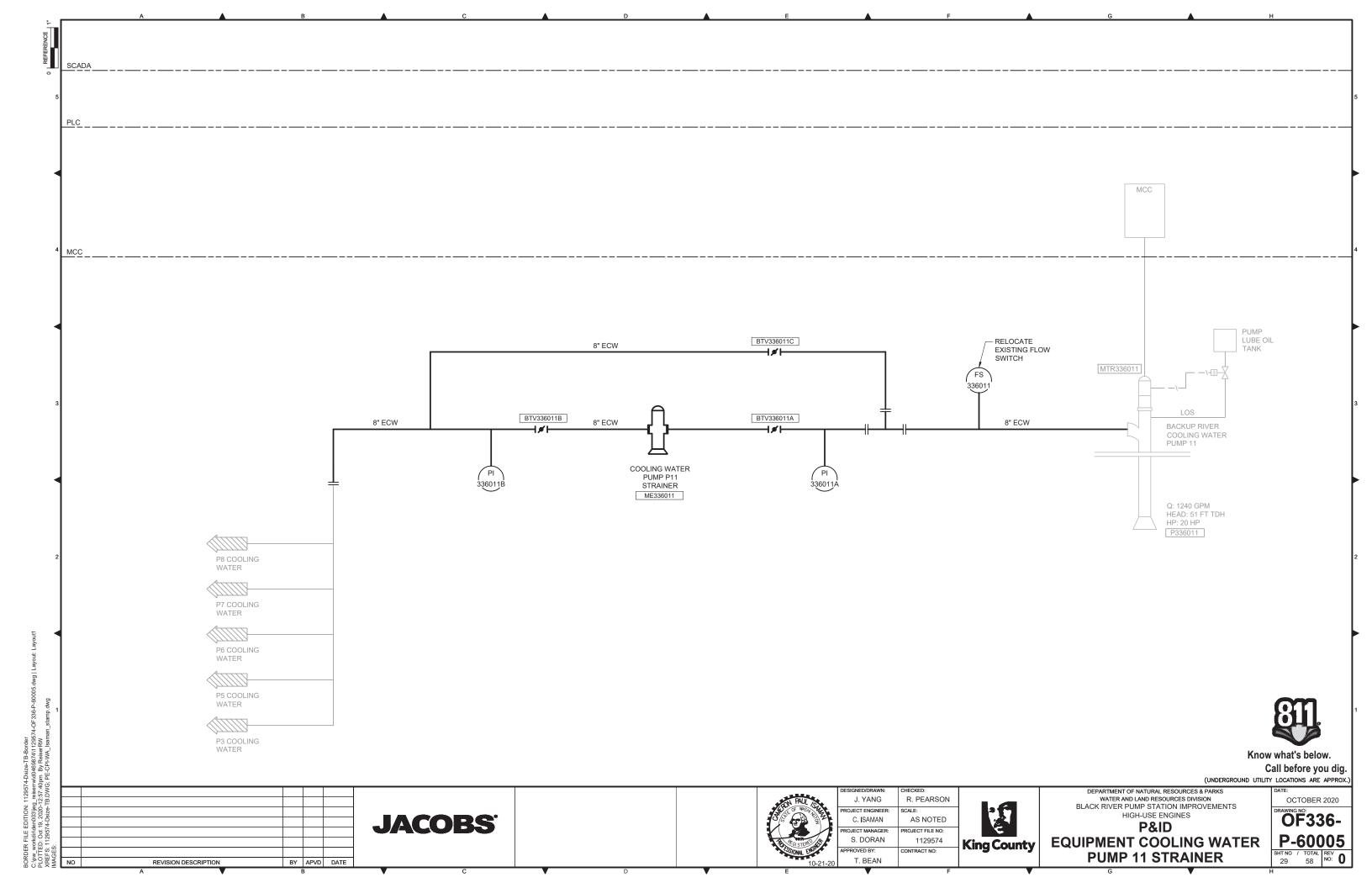
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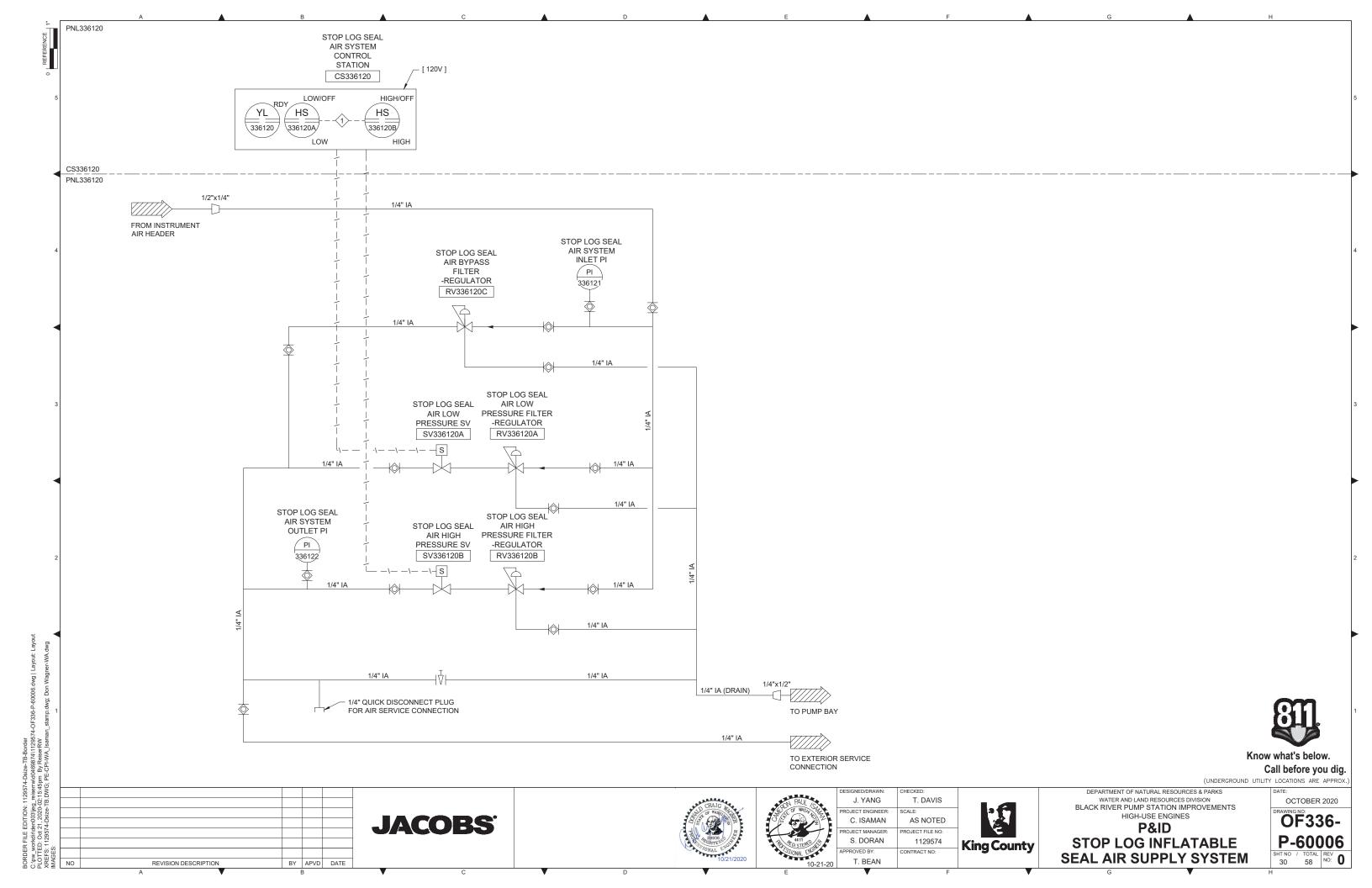










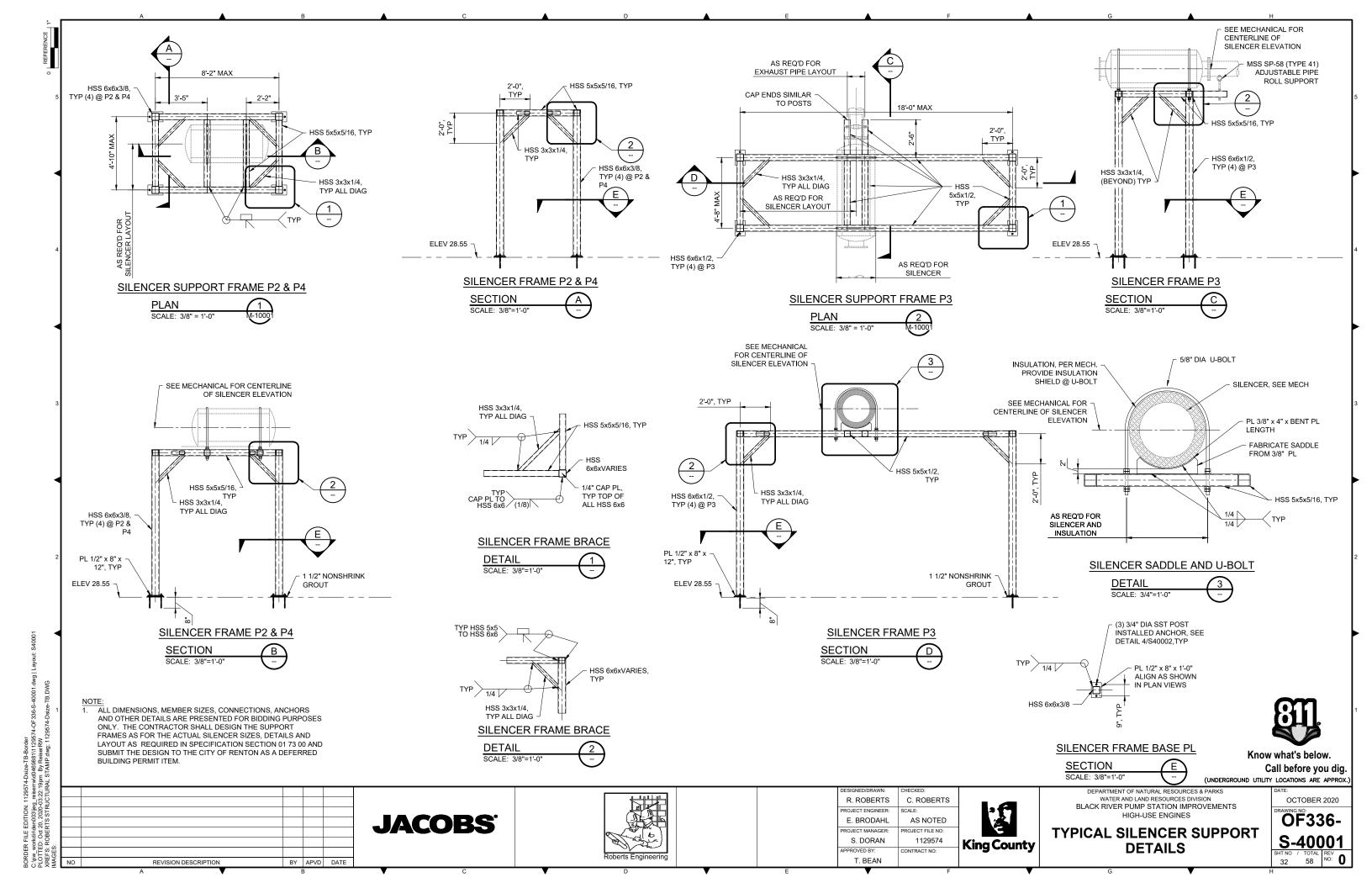


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REVISION DESCRIPTION

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POLYMER MODIFIED, CEMENTITIOUS MORTAR. FINISH TO MATCH SURROUNDING SLAB SLOPE, SURFACE AND TEXTURE. PREPARE AND PRIME SUBSTRATE PER GROUT MANUFACTURER'S RECOMMENDATIONS FILL ALL OVERCUT AT CORNERS WITH MORTAR

> NOTE: THIS DETAIL IS INTENDED FOR USE AT LOCATIONS WHERE AN EXISTING FOLIPMENT PAD IS REMOVED AND THE FLOOR IS BEING RESTORED TO A FLAT SURFACE.

TYPICAL EQUIP PAD REMOVAL REPAIRS

DETAIL SCALE: NT

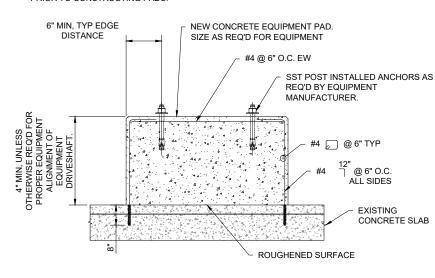
CONCRETE EQUIPMENT PAD NOTES:

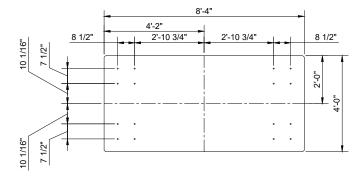
SCALE: 1"=1'-0"

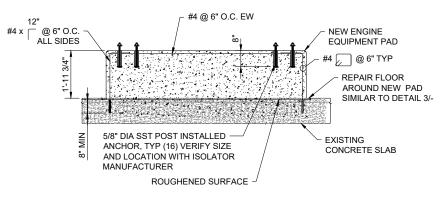
CONCRETE PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS REQUIRED BY THE MANUFACTURER AND APPROVED BY THE PROJECT REPRESENTATIVE.

TYPICAL EQUIP PAD REMOVAL

- THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR RODS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE
- EQUIPMENT BASES SHALL BE INSTALLED LEVEL. WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE GROUT IS PLACED. WEDGES AND SHIMS SHALL BE REMOVED AFTER GROUT HAS SET. PACK RESULTING VOIDS WITH CEMENTITIOUS NONSHRINK, NONMETALLIC AGGREGATE GROUT HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 6,500 PSI.
- SEE MECHANICAL AND ELECTRICAL DWGS FOR THE LOCATION AND SIZE FOR ALL EQUIPMENT PADS. CONFIRM PAD REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO CONSTRUCTING PADS.





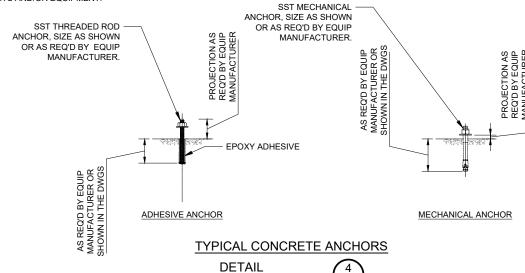


MOTOR PAD FOR PUMP 1

DETAIL SCALE: NTS

POST INSTALLED ANCHOR NOTES:

- 1. LOCATE EXISTING REINFORCING PRIOR TO DRILLING. ADJUST THE LOCATION OF THE ANCHOR TO MISS ALL EXISTING REINFORCING.
- 2. NUT, WASHER AND METAL SLEEVE MATERIAL TO MATCH BOLT MATERIAL.
- ALL ANCHOR BOLTS, POST INSTALLED CONCRETE ANCHORS, THREADED-ROD ANCHORS SHALL BE TYPE 316 SST PER SPECIFICATION SECTION 05 05 19 UNLESS OTHERWISE NOTED.
- 4. SEE SPECIFICATION SECTION 05 05 19 FOR THE ACCEPTABLE USE FOR ADHESIVE ANCHORS
- 5. THESE TYPICAL POST INSTALLED CONCRETE ANCHOR DETAILS ARE FOR ANCHORING ALL MECHANICAL AND ELECTRICAL PIPING, CONDUITS AND/OR EQUIPMENT.



SCALE: NT

VAR

ENGINE PAD FOR PUMPS P2 & P4

DETAIL SCALE: NTS



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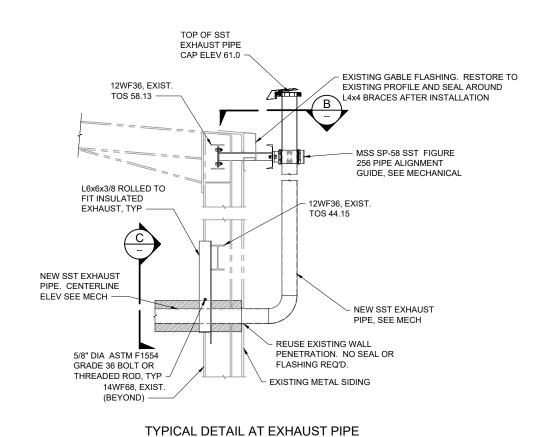
| DESIGNED/DRAWN: | CHECKED: | |
|-------------------|------------------|---|
| R. ROBERTS | C. ROBERTS | |
| PROJECT ENGINEER: | SCALE: | |
| E. BRODAHL | AS NOTED | |
| PROJECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | K |
| APPROVED BY: | CONTRACT NO: | |
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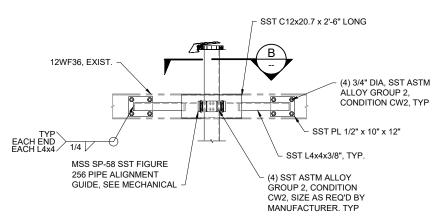


DEPARTMENT OF NATURAL RESOURCES & PARK WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

TYPICAL CONCRETE PAD & ANCHOR DETAILS

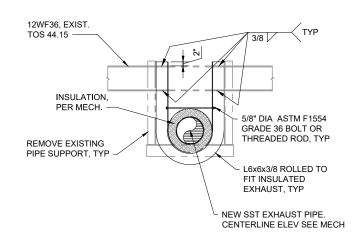
OCTOBER 2020 **OF336-**S-40002 58 REV NO: **0** 33





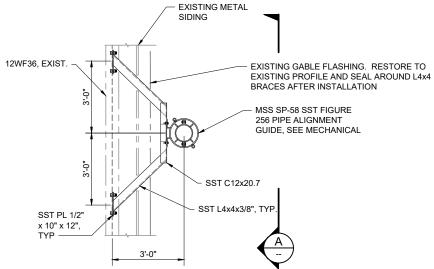
TYPICAL UPPER SUPPORT

SECTION A



TYPICAL LOWER SUPPORT

SECTION C



DETAIL SCALE: 1/2"=1'-0'

TYPICAL SECTION AT UPPER SUPPORT

SECTION
SCALE: 1/2"=1'-0"

B
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| ESIGNED/DRAWN: | CHECKED: | |
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| R. ROBERTS | C. ROBERTS | |
| ROJECT ENGINEER: | SCALE: | |
| E. BRODAHL | AS NOTED | |
| ROJECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | k |
| PPROVED BY: | CONTRACT NO: | • |
| T. BEAN | | |



DEPARTMENT OF NATURAL RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

TYPICAL EXHAUST SUPPORT DETAILS

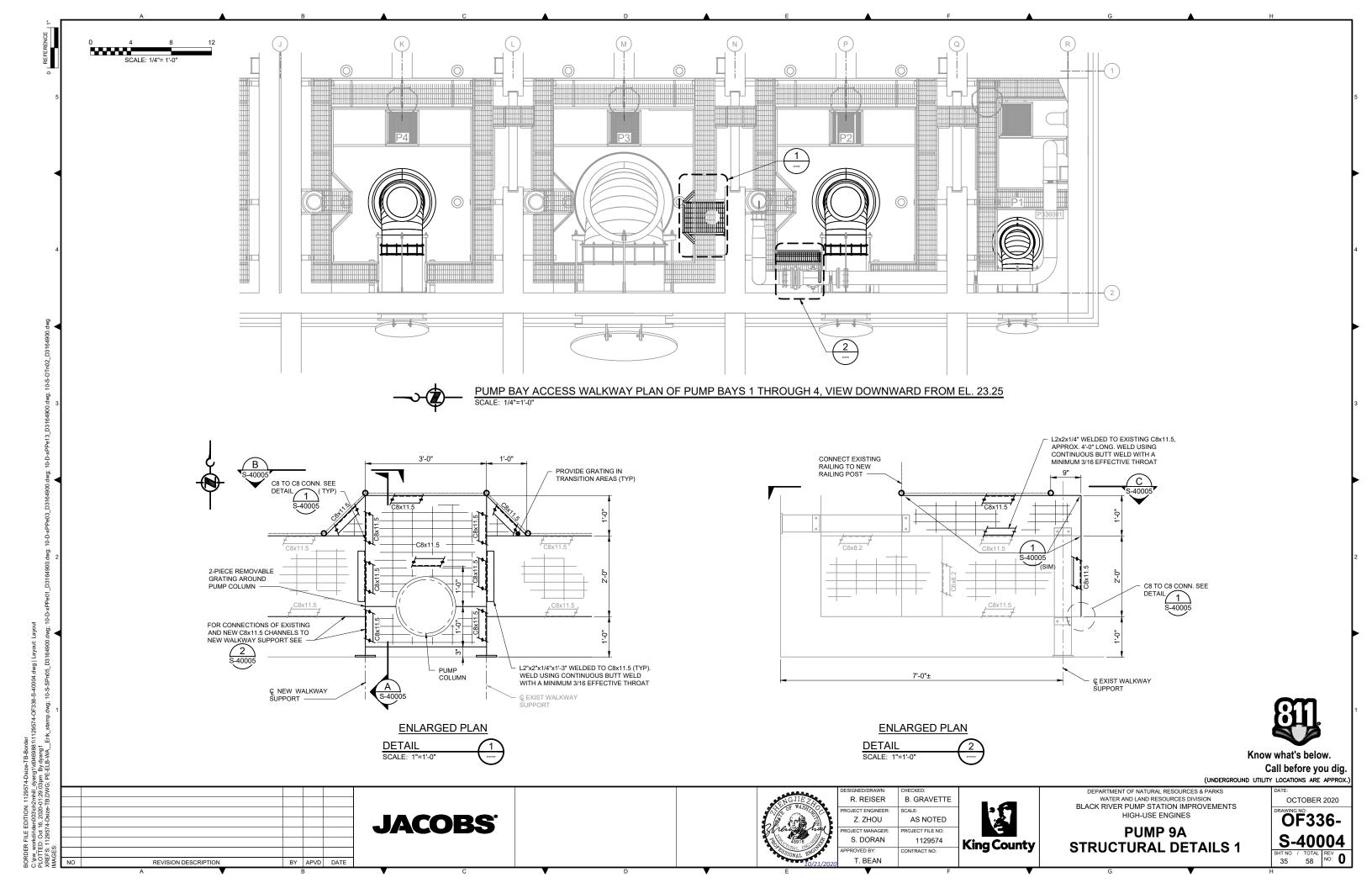
OCTOBER 2020

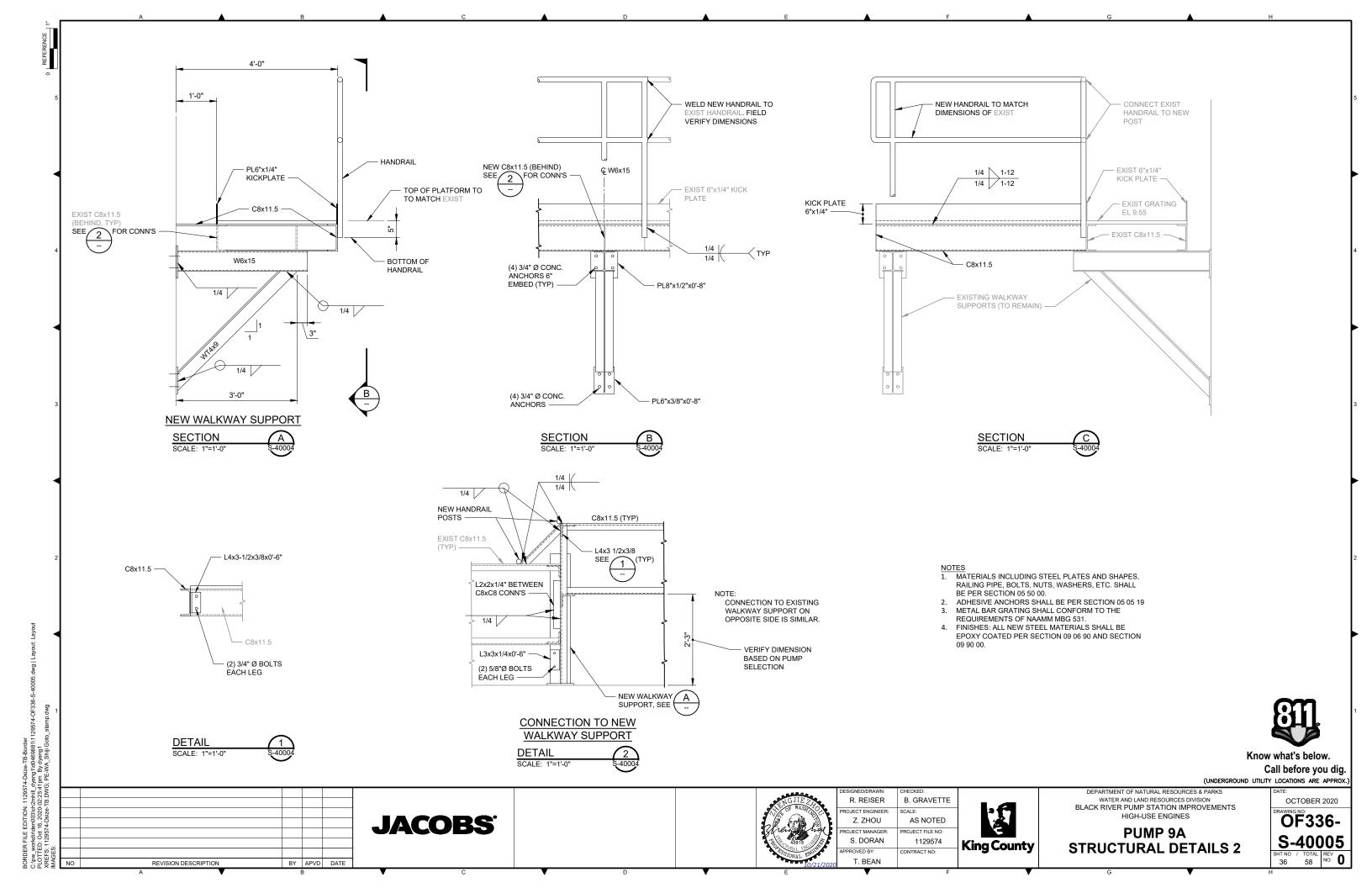
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OF336
S-40003

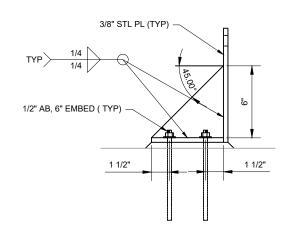
SHTNO / TOTAL REV NO: 0

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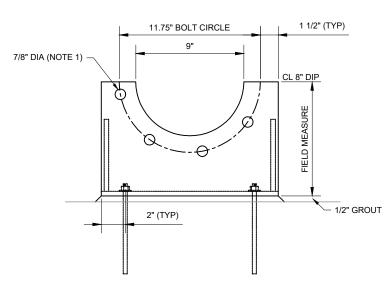








SIDE VIEW



FRONT VIEW

REVISION DESCRIPTION

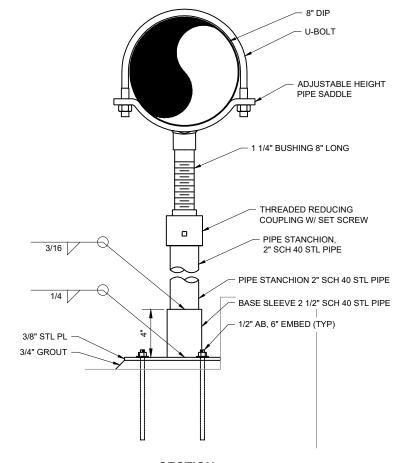
NOTES

1. DRILL THE HOLES AFTER THE ANGLED ELBOW POSITION HAS BEEN DETERMINED IN

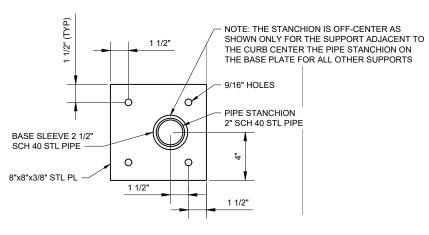
FLANGED PIPE SUPPORT

DETAIL

BY APVD DATE



SECTION



BASEPLATE

PIPE STANCHION SUPPORT

DETAIL SCALE: 3"=1'-0



Know what's below. Call before you dig.

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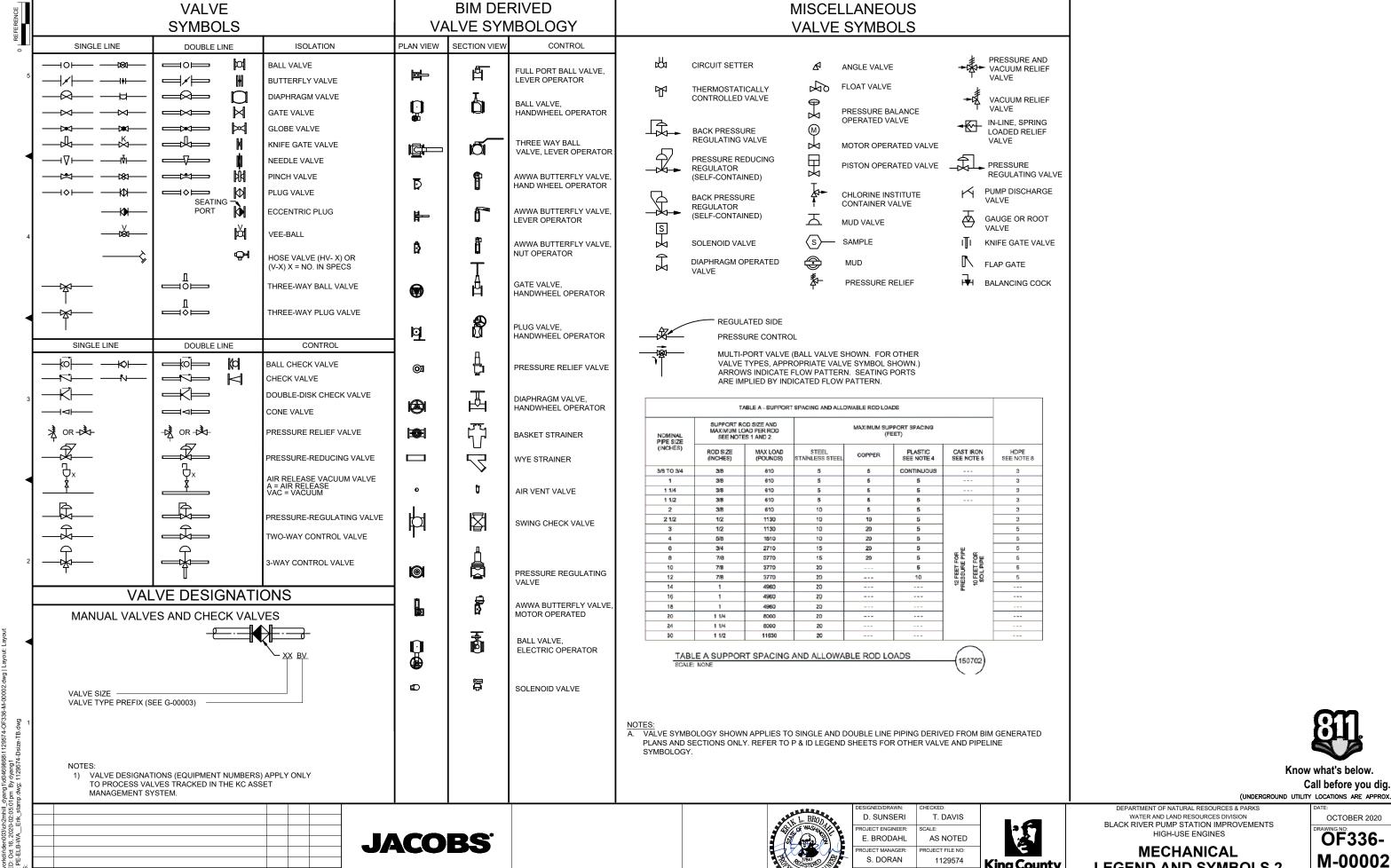
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| R. REISER | B. GRAVETTE |
| PROJECT ENGINEER: | SCALE: |
| Z. ZHOU | AS NOTED |
| PROJECT MANAGER: | PROJECT FILE NO: |
| S. DORAN | 1129574 |
| PPROVED BY: | CONTRACT NO: |
| T DEAN | |



DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

PUMP 11 STRAINER STRUCTURAL DETAILS

OCTOBER 2020 **OF336-**S-40006 37 58 REV NO: **0**



BY APVD DATE

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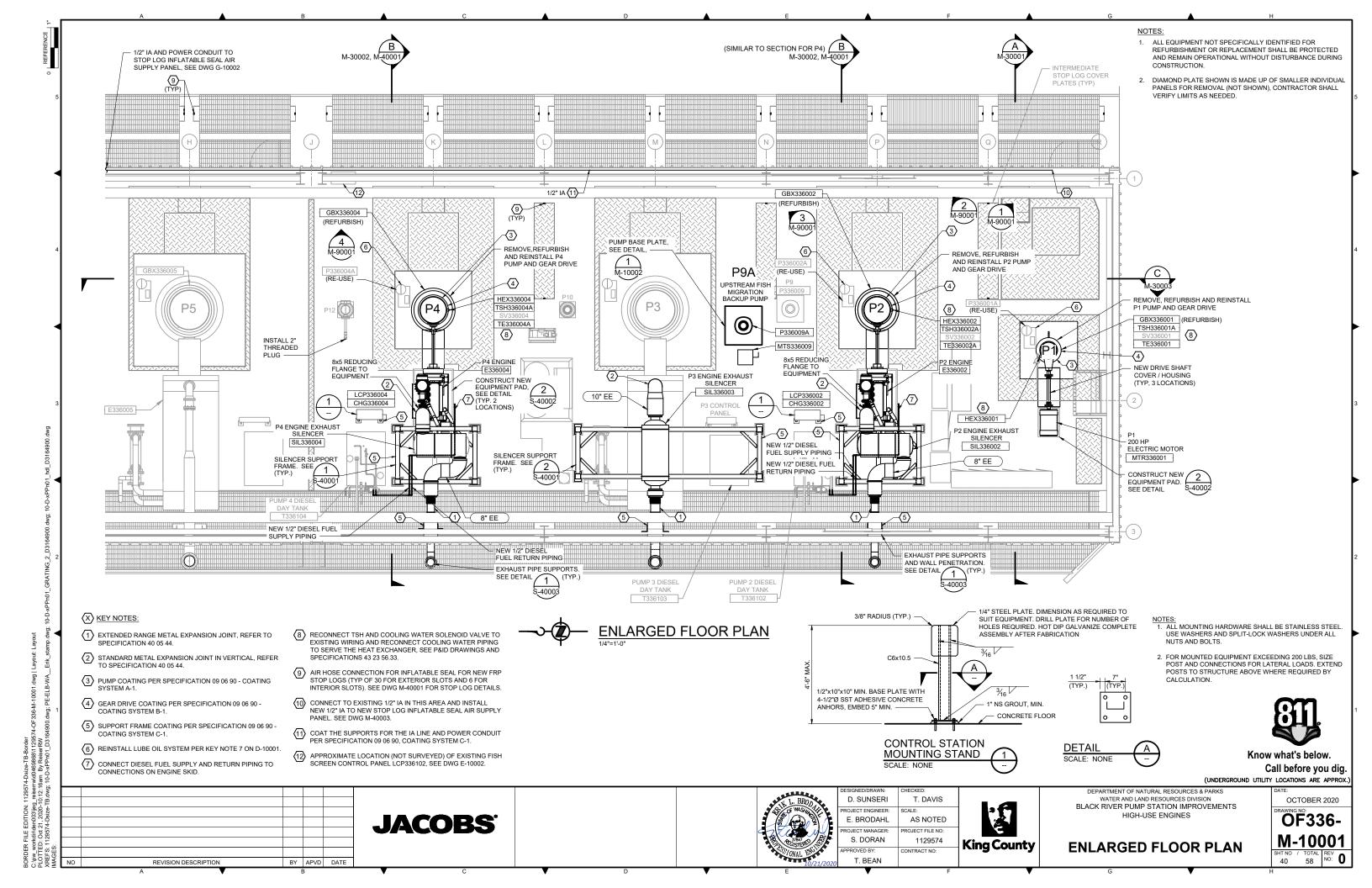
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|----------------|------------------|---|
| D. SUNSERI | T. DAVIS | |
| JECT ENGINEER: | SCALE: | |
| E. BRODAHL | AS NOTED | |
| JECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | ı |
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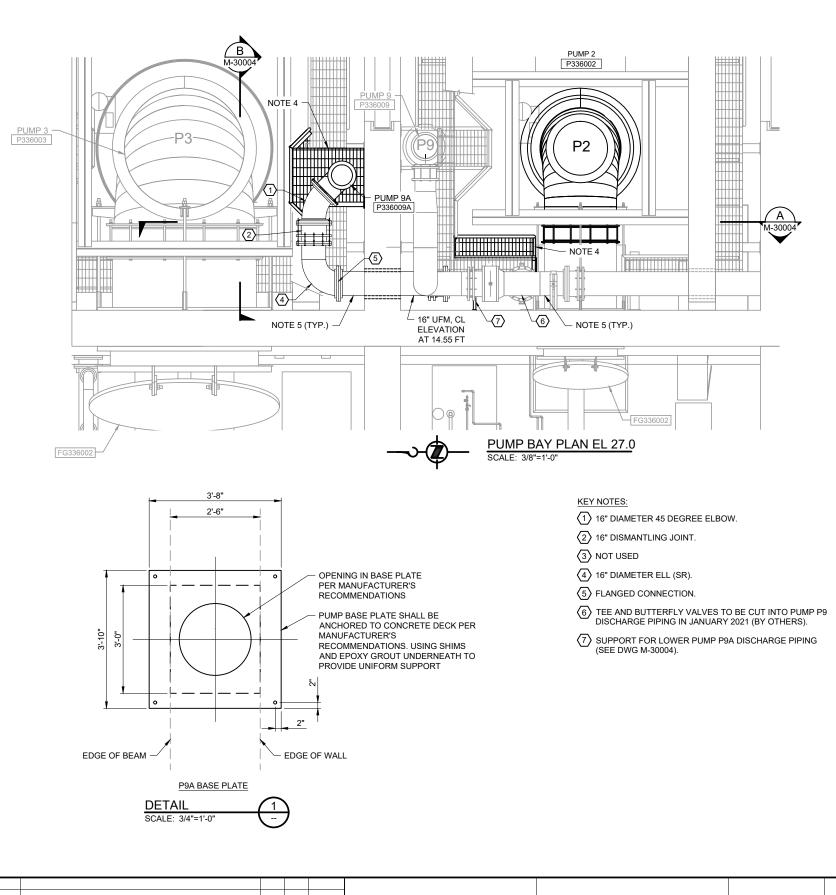
King County

LEGEND AND SYMBOLS 2

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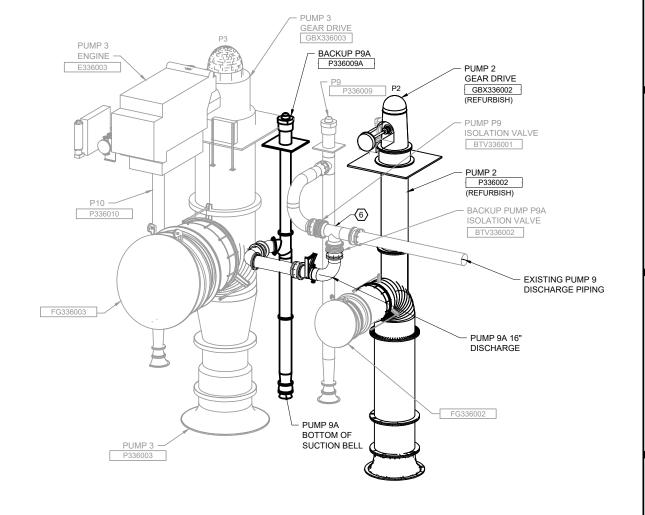




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BY APVD DATE

REVISION DESCRIPTION



NOTES:

- ISOMETRIC VIEWS ON THIS DRAWING SHOW OVERVIEW OF BACKUP PUMP 9A ADDITION AND CONNECTION TO EXISTING P9 DISCHARGE PIPING WITHOUT WALLS AND FLOORS, SEE DWG G-80001 FOR ADJACENT EQUIPMENT.
- 2. REFER TO NOTES ON DWG G-80001 FOR OVERVIEW OF REQUIRED WORK.
- IN GENERAL, ITEMS SHOWN WITH SHADED/FADED LINE TYPES ARE EXISTING AND NOT PART OF THIS SCOPE OF WORK. ITEMS SHOWN BOLD REPRESENT PROPOSED NEW AND REFURBISHED COMPONENTS.
- 4. SEE DRAWING S-40004 FOR WALKWAY MODIFICATIONS.
- COAT THE NEW UFM PIPING, FITTINGS AND SUPPORTS AND THE UFM PIPING, FITTINGS AND SUPPORTS INSTALLED BY OTHERS (SEE KEY NOTE #6) WITH SYSTEM C-1, PER SECTION 09 06 90.





Know what's below. Call before you dig.

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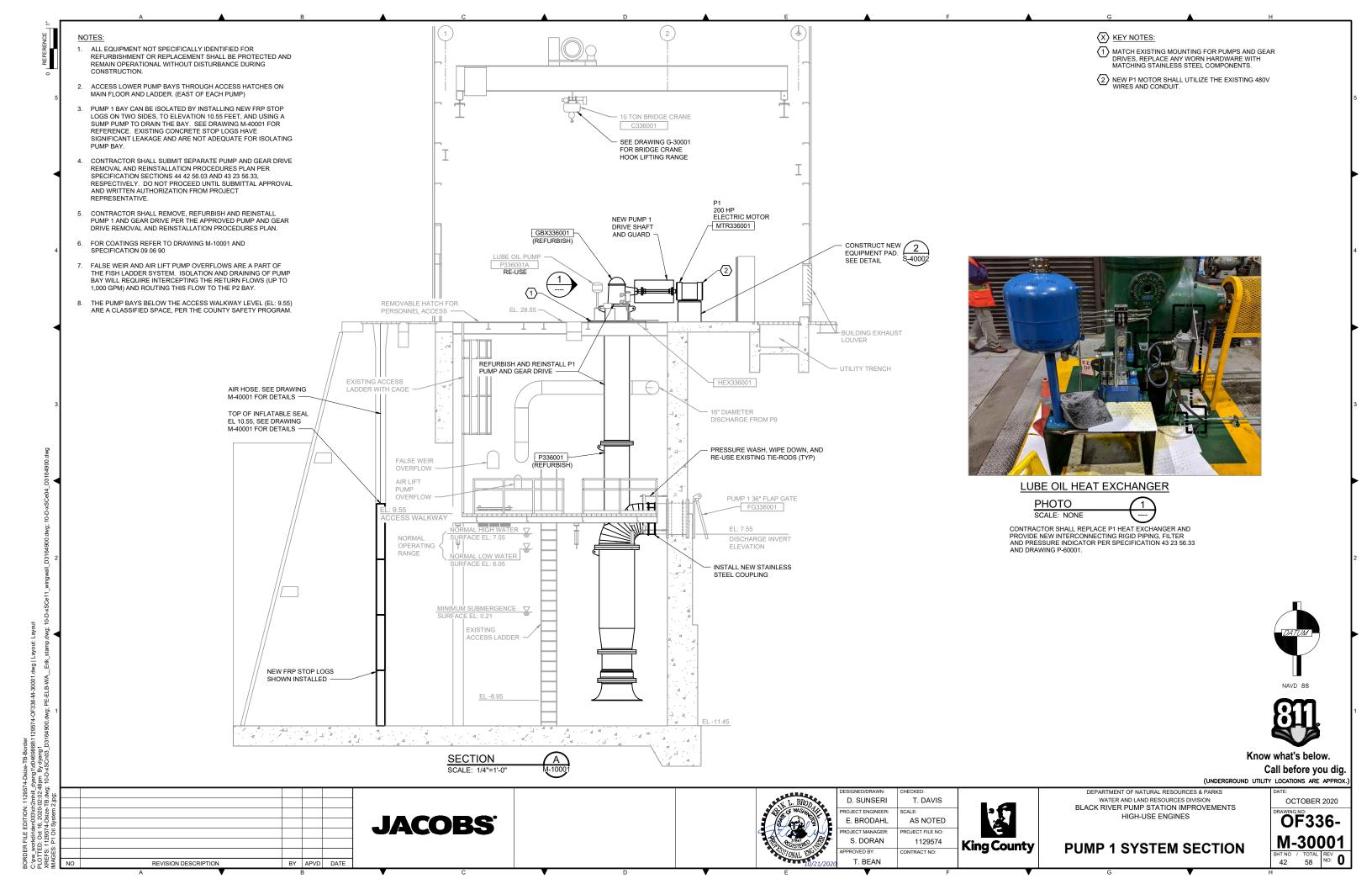
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| T. DAVIS | |
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| | T. DAVIS SCALE: AS NOTED PROJECT FILE NO: 1129574 |

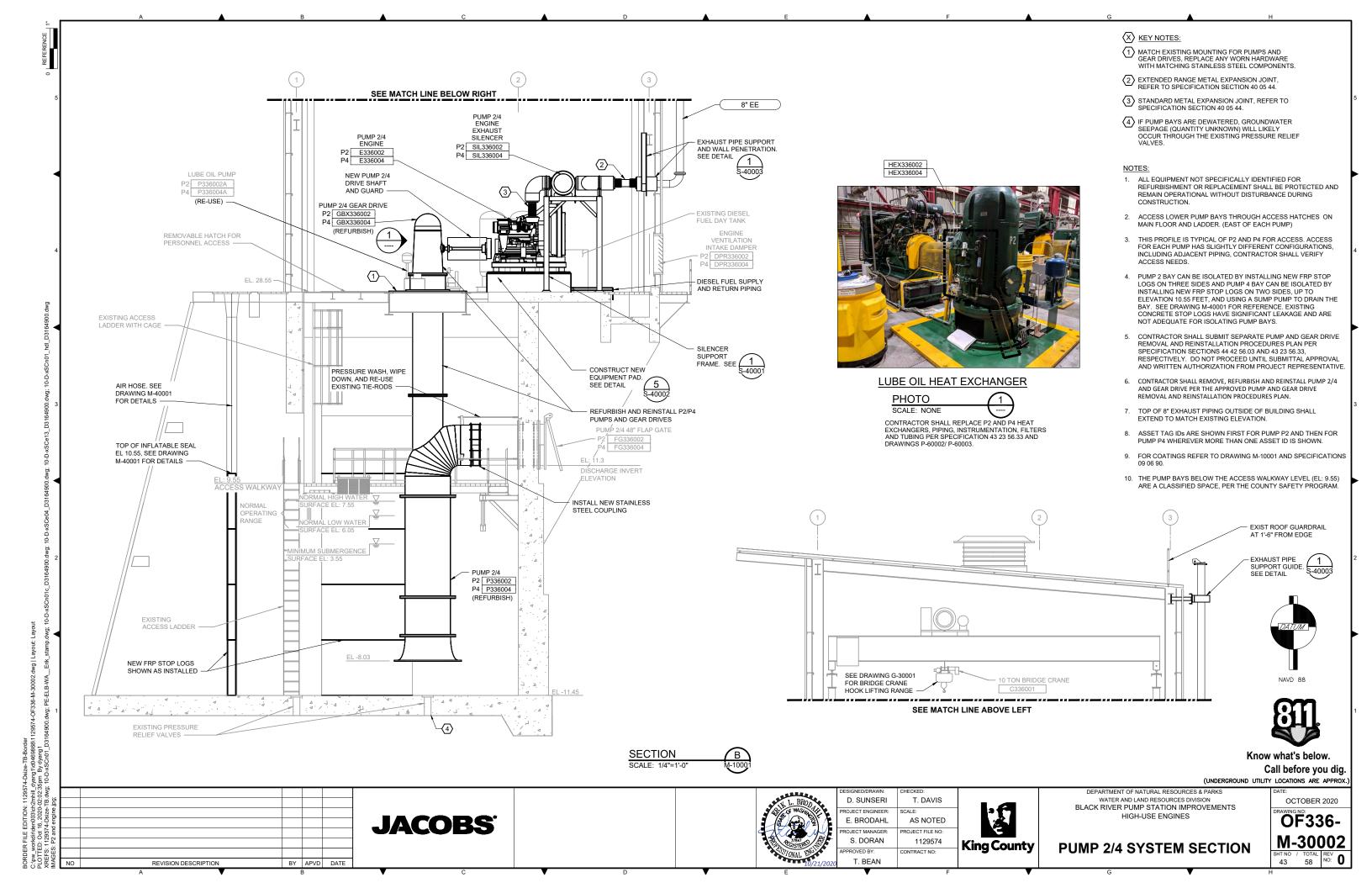


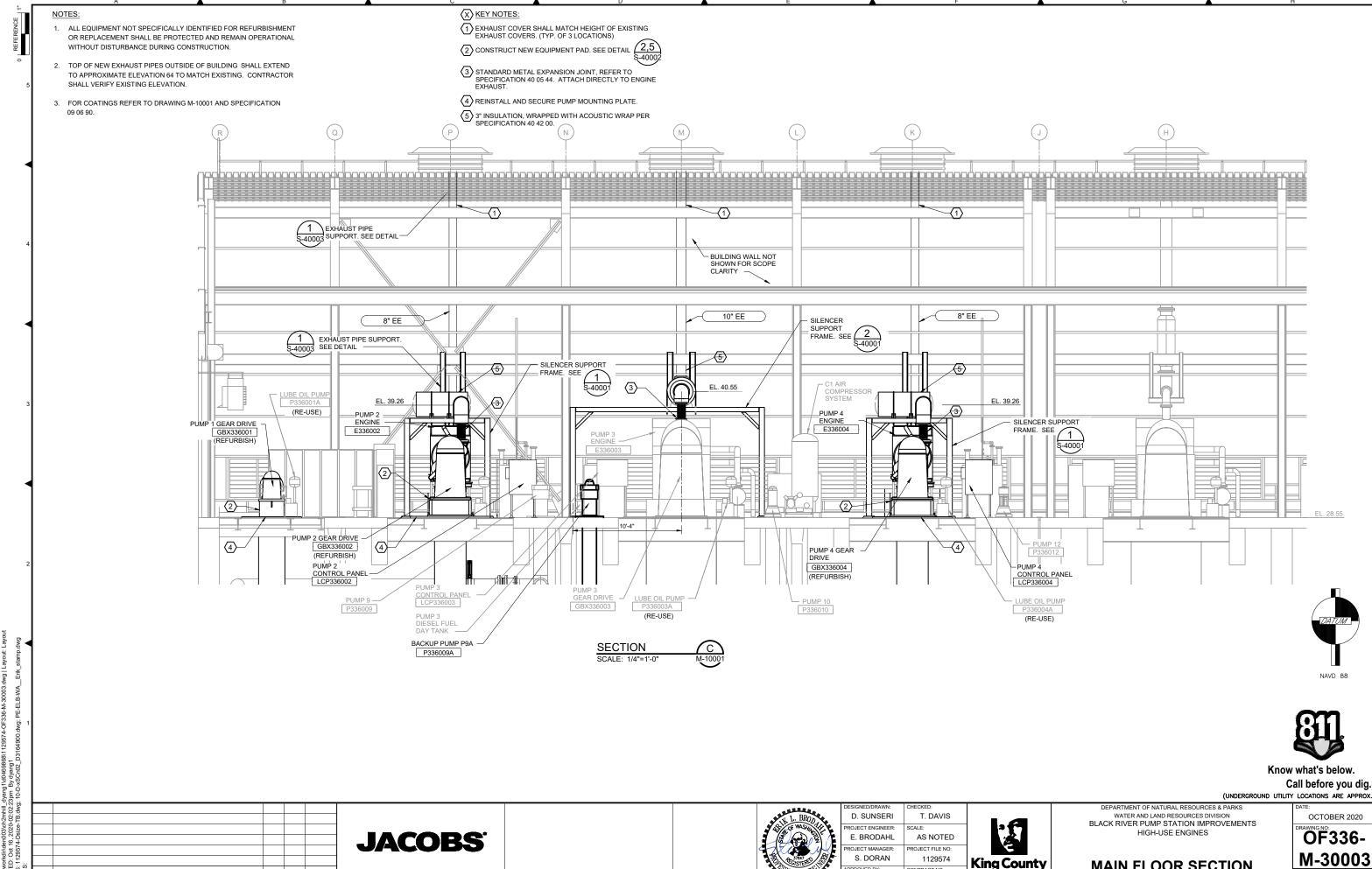
DEPARTMENT OF NATURAL RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

BACKUP PUMP 9A SYSTEM PLAN

OCTOBER 2020 **OF336-**M-10002 TOTAL REV NO: **0**







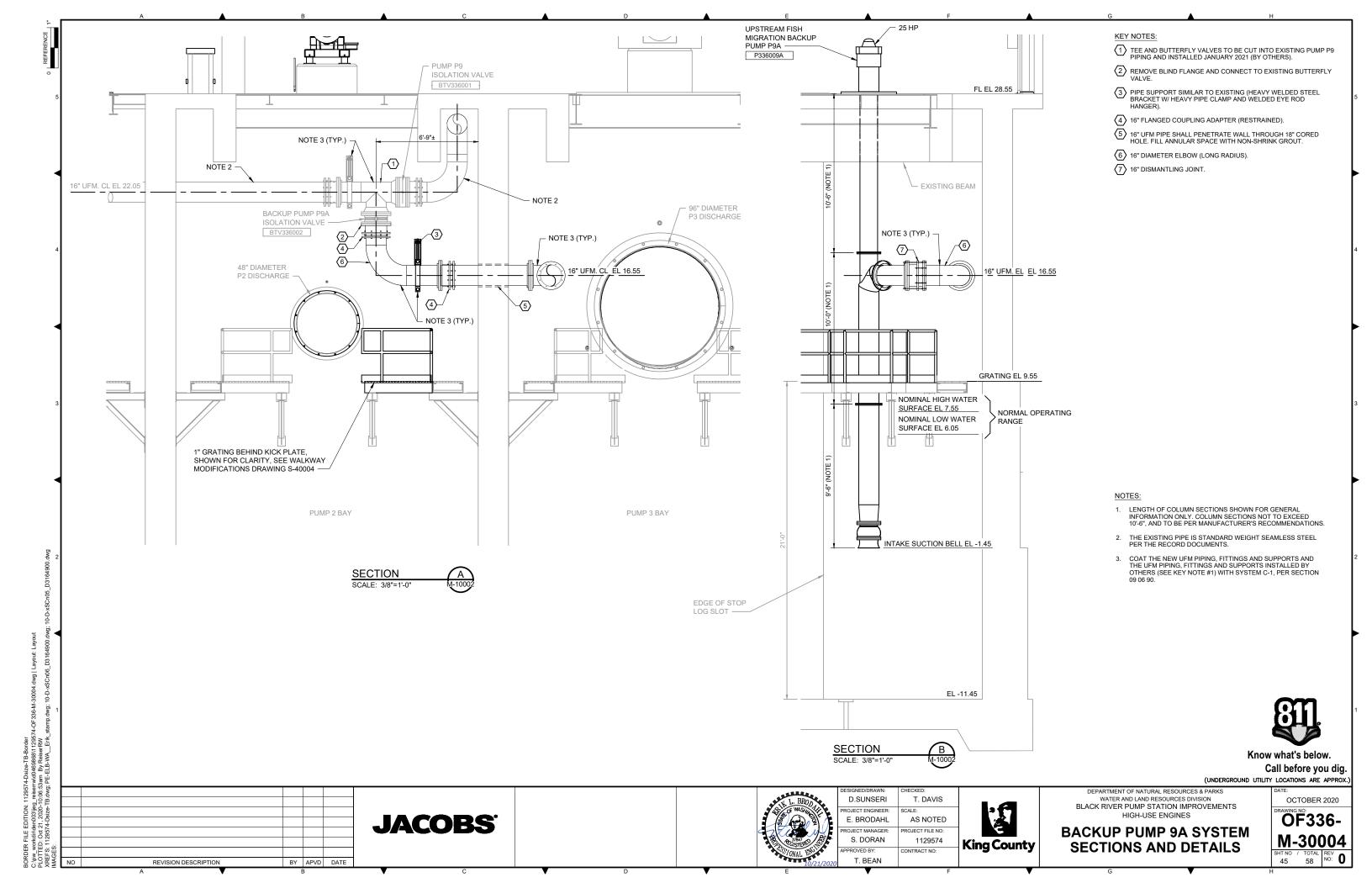
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MAIN FLOOR SECTION

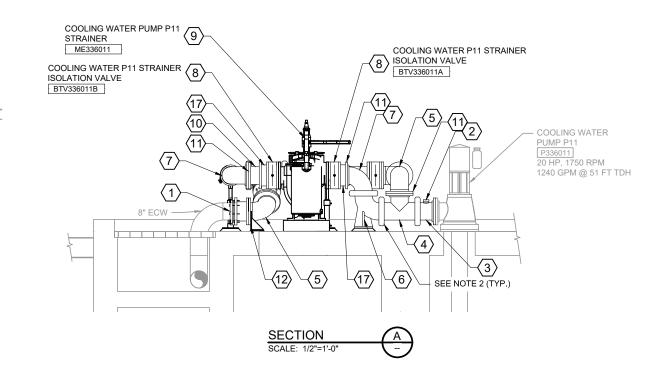
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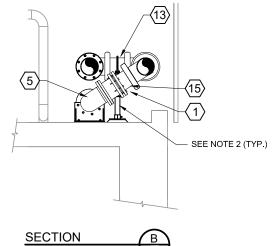
King County



(18) (5) STRAINER BYPASS VALVE BTV336011C STRAINER ISOLATION VALVE BTV336011A SEE NOTE 2 (TYP.) STRAINER ME336011 8 STRAINER ISOLATION VALVE BTV336011B (13) (NOTE 1)

COOLING WATER PUMP P11 P336011





KEY NOTES:

- 8" RESTRAINED FLANGED COUPLING ADAPTER.
- 2 FLOW SWITCH FS336011.
- (3) 8" SPOOL PIECE FL x GE, 9" LONG, W/ WELDED THREADED CONNECTION SUITABLE FOR THE FLOW SWITCH.
- 4 8" x 8" x 8" TEE, GE x GE x GE.
- (5) 8" 90 DEG ELL, FL x FL.
- $\fbox{6}$ 8" 90 DEG BASE ELL, GE x GE, ON GROUT PAD. 4 EA 5/8" AB, 5" EMBED.
- (7) 8" 90 DEG ELL, GE x GE.
- 8 8" BUTTERFLY VALVE, FL x FL.
- 9 8" DUPLEX BASKET STRAINER, FL x FL.
- 8" SPOOL PIECE, FL x FL, LENGTH AS REQ'D.
- 8" GE RESTRAINED FLANGED COUPLING ADAPTER.
- 12 FLANGED PIPE SUPPORT, SEE DETAIL 1 / S-40006.
- (13) STANCHION PIPE SUPPORT, SEE DETAIL 2 / S-40006.
- (14) STANCHION PIPE SUPPORT (OFFSET), SEE DETAIL 2 / S-40006. 8" SPOOL PIECE, GE x PE, LENGTH AS REQ'D.
- ${\Large \Large {\begin{tabular}{l} \begin{tabular}{l} \begi$
- 8" FULL PORT, WAFER STYLE PRESSURE SENSOR.
- (18) 8" SPOOL PIECE, FL x FL, 10" LONG.
- 8" SPOOL PIECE, GE x GE, LENGTH AS REQ'D.

- THE ECW IS STANDARD WEIGHT SEAMLESS STEEL, PER THE RECORD DOCUMENTS.
- 2. THE NEW PIPING AND SUPPORTS SHALL BE COATED WITH SYSTEM C-1 (SEE SECTION 09 06 90).



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| SIGNED/DRAWN: | CHECKED: | |
|-----------------|------------------|---|
| D.SUNSERI | T. DAVIS | |
| OJECT ENGINEER: | SCALE: | |
| E. BRODAHL | AS NOTED | |
| OJECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | 1 |
| PROVED BY: | CONTRACT NO: | • |
| T REAN | | |



DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

PUMP 11 STRAINER SYSTEM King County | PLAN, SECTIONS AND DETAILS

OCTOBER 2020 **OF336-**M-30005 58 REV NO: **0** MAIN FLOOR

ELEVATION = 28.55

INFLATABLE SEAL

TO ELEVATION 10.55

GUARDRAU AT

TOP OF STOP LOG ELEVATION= 10.55 INSTALL INFLATABLE SEALS AND AIR HOSE FOR 15 EXTERIOR STOP LOG BAYS

EXISTING 10"x 120"

AIR HOSE

STOP LOG SLOT

PANELS INSTALL INFLATABLE SEALS AND AIR HOSE FOR 3

NEW STOP LOG

ELEVATION= -11.45

129574-0F330-m----RRW .dwg; 10-D-xSCn01_D3164900.d\ ? R359.JPG; IMG_6360.JPG;

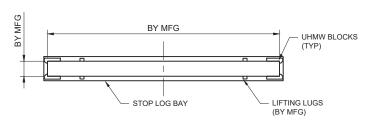
INTERIOR STOP LOG BAYS BOTTOM SEAL

STOP LOG INSTALLATION LOCATION

SCALE: 1/8"=1'-0

BY APVD DATE

TBD (BY MFG) TBD (BY MFG) REMOVABLE UHMW BLOCKS ON UPSTREAM FACE, FOUR CORNERS. SEE DETAIL 0 UHMW BLOCKS FULL HEIGHT OF STOP LOGS EACH CORNER. SEE SECTION B/M-40002



TYPICAL STOP LOG ELEVATION AND SECTION

SCALE: 1/2"=1'-0'

- REFER TO SPECIFICATION 40.05.59.16 "CORROSION RESISTANT HEAVY DUTY STOP LOGS" FOR REQUIREMENTS.
- 2. FUNCTION OF NEW FRP STOP LOGS IS FOR INSTALLATION IN EXISTING SLOTS FROM A BOTTOM ELEVATION OF -11.45 UP A MAXIMUM OF 16.05 FT TO ALLOW FOR ISOLATION OF INDIVIDUAL PUMP BAY(S). TYPICAL INSTALLED HEIGHT IS 10.55 FT (4 PANELS HIGH), AS SHOWN IN SECTION B.
- 3. EXISTING 4-TON ELECTRIC TROLLEY HOIST IS DEDICATED TO STOP LOG PLACEMENT. CONTRACTOR SHALL PROVIDE LIFTING BEAM WITH MECHANICAL METHOD OF ATTACHING/DETACHING THE STOP LOGS PER SPECIFICATION REQUIREMENTS. USE OF HOIST IS LIMITED TO THE AREA IMMEDIATELY EAST OF THE BRPS STRUCTURE. SEE SECTION 01 14 00 FOR MORE DETAILS.
- 4. CONTRACTOR SHALL VERIFY STOP LOG SLOT DIMENSIONS PRIOR TO STOP LOG FABRICATION TO ENSURE PROCURED STOP LOGS WILL FUNCTION IN EXISTING SLOTS AND WILL BE RESPONSIBLE FOR FINAL FIT AND SEAL OF
- 5. SEE DRAWINGS G-10002, G-10003 AND G-10004 FOR PLAN VIEWS OF EXISTING STOP LOG SLOTS.
- 6. CONTRACTOR SHALL PLACE NEW STOP LOGS IN EXISTING STORAGE AREA UNDER THE MONORAIL FRAME LOCATION SHOWN ON DRAWING G-10001 AND IN THE PHOTOS INCLUDED BELOW. CONTRACTOR SHALL STORE 24 STOP LOGS IN HORIZONTAL POSITIONS SEPARATED BY TREATED 4x4x10'-0" POSTS, TWO PER STOP LOG IN STACKS 4 STOP LOGS HIGH. PLACE LUMBER BETWEEN BOTTOM STOP LOGS AND CONCRETE FOUNDATION. REFER TO 1969 CONSTRUCTION DRAWINGS, SHEET S-22 FOR DETAILS OF THE EXISTING SUBGRADE CONCRETE SLAB AND RAISED CURBS AND BETWEEN EACH STOP LOG. CONCRETE SLAB AND RAISED CURBS EXTEND FURTHER SOUTH THAN SHOWN ON SHEET S-22, SEE PHOTOS BELOW; CONTRACTOR SHALL FIELD DETERMINE EXTENTS OF SLAB AND USE AREA AS NEEDED TO STORE ALL OF THE NEW LOGS. COORDINATE TIMING AND PLACEMENT OF THE STOP LOGS WITH THE PROJECT REPRESENTATIVE.
- 7. CONTRACTOR SHALL RECYCLE EXISTING CONCRETE STOP LOGS.
- THE PUMP BAYS BELOW THE ACCESS WALKWAY LEVEL (EL: 9.55) ARE A CLASSIFIED SPACE, PER THE COUNTY SAFETY PROGRAM.



REMOVE EXISTING POSTS AND SUPPORT HARDWARE FOR EXISTING STOP LOGS AS NEEDED AND COORDINATE WITH PROJECT REPRESENTATIVE TO STORE IN EXISTING STORAGE SHED NEARBY



STOP LOG STORAGE AREA (EXISTING)

PHOTO SCALE: 1/2"=1'-0

STOP LOG STORAGE BASE SLAB & RACKS

PHOTO SCALE: 1/2"=1'-0



Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.

REVISION DESCRIPTION

JACOBS



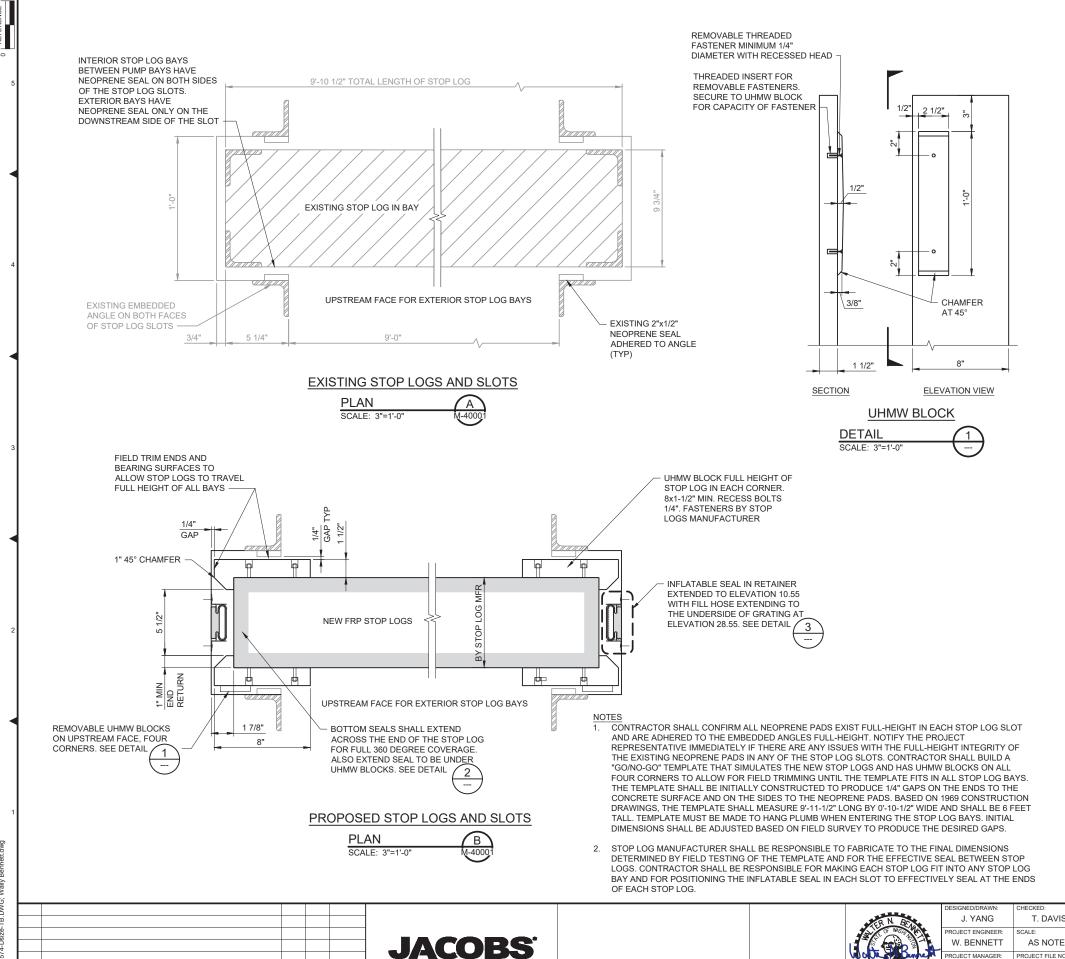
| SIGNED/DRAWN: | CHECKED: | Г |
|------------------|------------------|---|
| D. SUNSERI | T. DAVIS | |
| ROJECT ENGINEER: | SCALE: | |
| W. BENNETT | AS NOTED | |
| ROJECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | k |
| PROVED BY: | CONTRACT NO: | • |
| T DEAN | | |



DEPARTMENT OF NATURAL RESOURCES & PARI WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

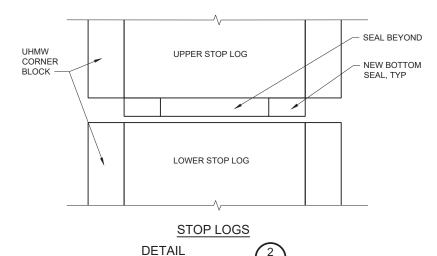
STOP LOG DETAILS 1

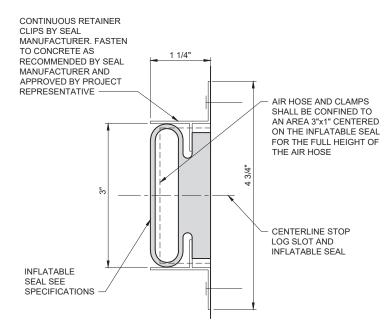
OCTOBER 2020 **OF336-**M-40001 TOTAL REV NO: 0



REVISION DESCRIPTION

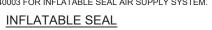
BY APVD DATE





SCALE: 6"=1'-0'

- 1. RETAINER CLIPS SHALL BE ACCURATELY LOCATED TO HOLD THE SEAL ON THE CENTERLINE OF THE SLOT +/- 1/8TH INCH FULL HEIGHT USING A REFERENCE LINE. FINAL POSITION OF SEAL SHALL BE STRAIGHT.
- 2. SEAL SHALL EXTEND FROM ELEVATION -11.45 TO ELEVATION 10.55. AIR HOSE SHALL EXTEND TO AN ELEVATION JUST BELOW THE GRATING AT THE MAIN FLOOR LEVEL AT ELEVATION 28.55. CLAMP THE AIR HOSE TO THE CONCRETE SLOT BACK WALL AT REGULAR SPACING TO HOLD THE AIR LINE STRAIGHT. AIR LINE SHALL TERMINATE IN A STANDARD TIRE AIR VALVE. CLAMPS SHALL ALLOW FOR MOVEMENT OF SEAL DURING INFLATING. SECURE TOP OF AIR HOSE WITH A KELLAMS GRIP.
- 3. SEE DWG M-40003 FOR INFLATABLE SEAL AIR SUPPLY SYSTEM.





Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.

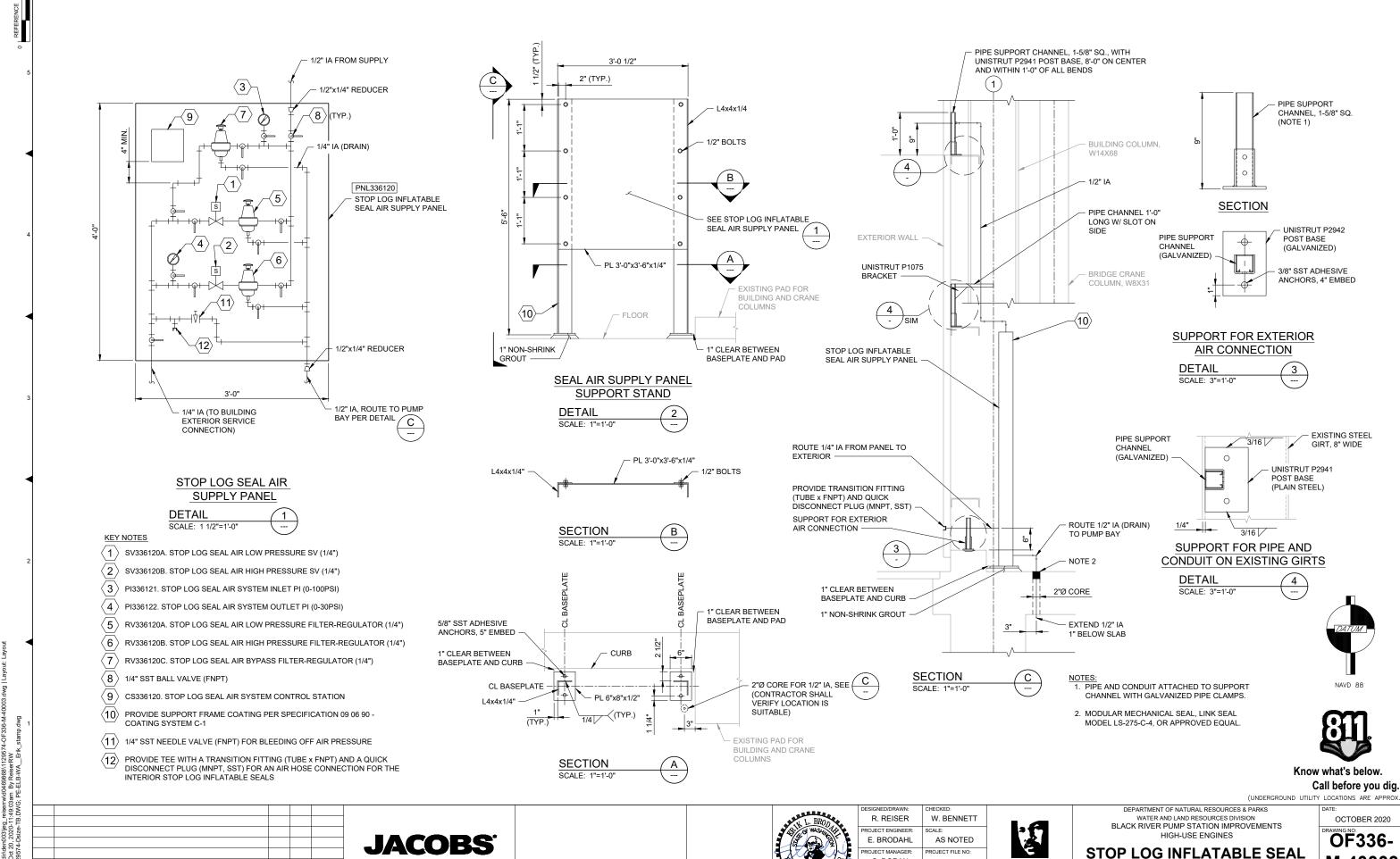
T. DAVIS W. BENNETT AS NOTED S. DORAN 1129574



DEPARTMENT OF NATURAL RESOURCES & PARK WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

STOP LOG DETAILS 2

OCTOBER 2020 **OF336-**M-40002



S. DORAN

1129574

King County

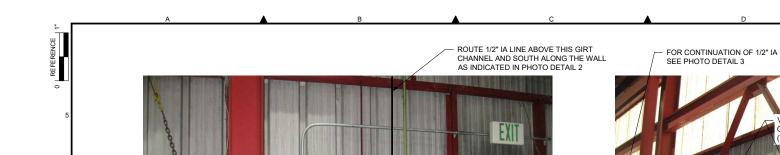
AIR SUPPLY PANEL DETAILS

M-40003

58 NO: **0**

REVISION DESCRIPTION

BY APVD DATE



VALVE FOR P1 BAY

ISH SCREEN SPRAY

ROUTE 1/2" IA LINE BEHIND COLUMNS (TYP.) SEE PHOTO DETAIL 3 ERTICAL PIPE SUPPORT 4 M-40003 FLOW CONTROL VALVES FOR THE P2 BAY FISH

VERTICAL PIPE SUPPORT 4 M-40003 FOR CONTINUATION OF 1/2" IA AND POWER CONDUIT, SEE PHOTO FLOW CONTROL VALVES FOR THE P3 BAY FISH FLOW CONTROL VALVES FOR THE P4 BAY FISH SCREEN SPRAYS

FOR CONTINUATION OF 1/2" IA

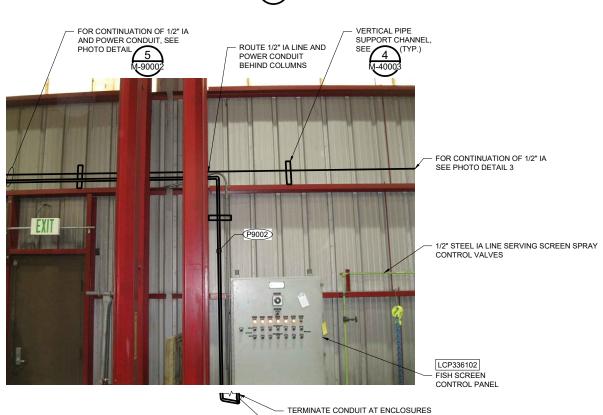
SEE PHOTO DETAIL 1

3 M-10001 **PHOTO** SCALE: NTS

1 M-10001 **PHOTO** SCALE: NTS

PHOTO SCALE: NTS

2 M-10001



WITH A CONDUIT HUB (TYP.)

ROUTE P9002 OUT OF THE BOTTOM OF THE CABINET

NAVD 88

FOR CONTINUATION

DETAIL 2

OF 1/2" IA SEE PHOTO

Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

BY APVD DATE REVISION DESCRIPTION

PHOTO

SCALE: NTS

ER FILE EDITION: 1129574-Dsize-TB-Border workdinden003sb/zmhil_dyang11d046986811129574-DF33: ED: Od 21, 2020-062;2958m By dyangs and page 125974-Dsize-TB dwg S: PE-ELB-WA Enk stamp dwg. 1128574-Dsize-TB dwg S: PRE-ELB-WA Enk stamp dwg. 1128574-Dsize-TB dwg S: PRG 1_Comn to Existing IA_JPG; IMG 2 Above P2 Bag_JJ

JACOBS

REMOVE THREADED FITTINGS (BEHIND VALVE ACTUATOR) AND PROVIDE A BRANCH 1/2" IA

LINE TO SERVE THE NEW STOP LOG INFLATABLE SEAL AIR

SUPPLY PANEL



| DESIGNED/DRAWN: | CHECKED: |
|-------------------|------------------|
| R. REISER | W. BENNETT |
| PROJECT ENGINEER: | SCALE: |
| E. BRODAHL | AS NOTED |
| PROJECT MANAGER: | PROJECT FILE NO: |
| S. DORAN | 1129574 |
| APPROVED BY: | CONTRACT NO: |
| T DEAN | |

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

STOP LOG INFLATABLE **SEAL AIR SYSTEM PHOTO DETAILS 1**

OCTOBER 2020 **OF336-**M-90001 58 REV NO: **0**

50

FOR CONTINUATION OF 1/2"

SCALE: NTS



REVISION DESCRIPTION

PHOTO SCALE: NTS

BY APVD DATE



PHOTO SCALE: NTS

KEY NOTES (EXISTING LCP336102) ADD A 5 AMP DIN RAIL MOUNTED FUSE, CONNECT PRIMARY SIDE TO 100, SECONDARY SIDE TO A SPARE TERMINAL BLOCK. CONNECT "N" TO A SPARE

AS-BUILT THE WIRING DIAGRAM WITH THE TERMINAL BLOCK NUMBERS

2 ROUTE CONDUIT P-9002 OUT THE BOTTOM OF THE ENCLOSURE

TERMINAL BLOCK



FOR CONTINUATION OF 1/2" IA AND POWER CONDUIT SEE PHOTO DETAIL 5



PHOTO





PHOTO SCALE: NTS





Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX. DEPARTMENT OF NATURAL RESOURCES & PARKS

JACOBS



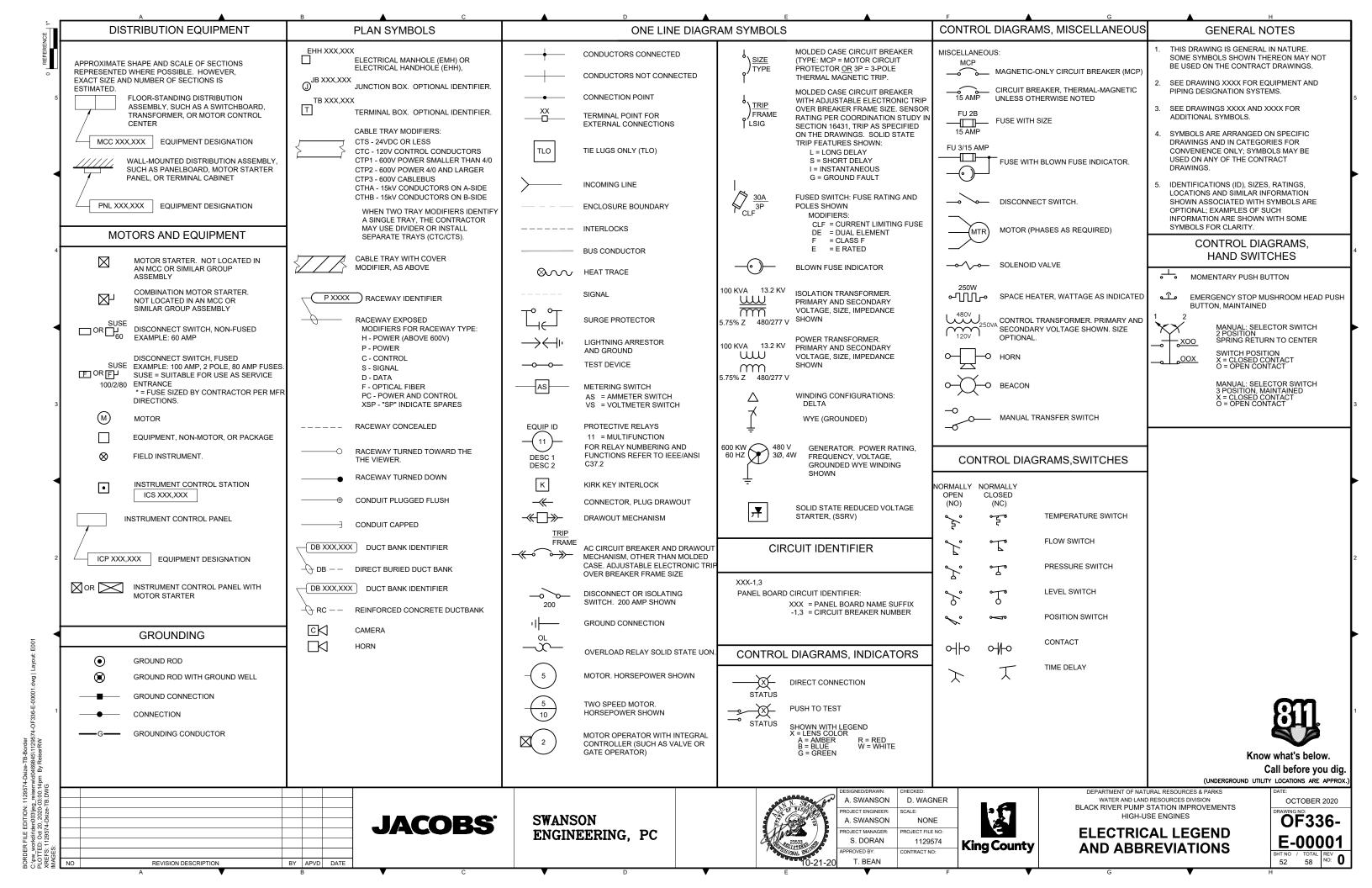
| ESIGNED/DRAWN: | CHECKED: |
|------------------|------------------|
| R. REISER | W. BENNETT |
| ROJECT ENGINEER: | SCALE: |
| E. BRODAHL | AS NOTED |
| ROJECT MANAGER: | PROJECT FILE NO: |
| S. DORAN | 1129574 |
| PPROVED BY: | CONTRACT NO: |
| T DEAN | |

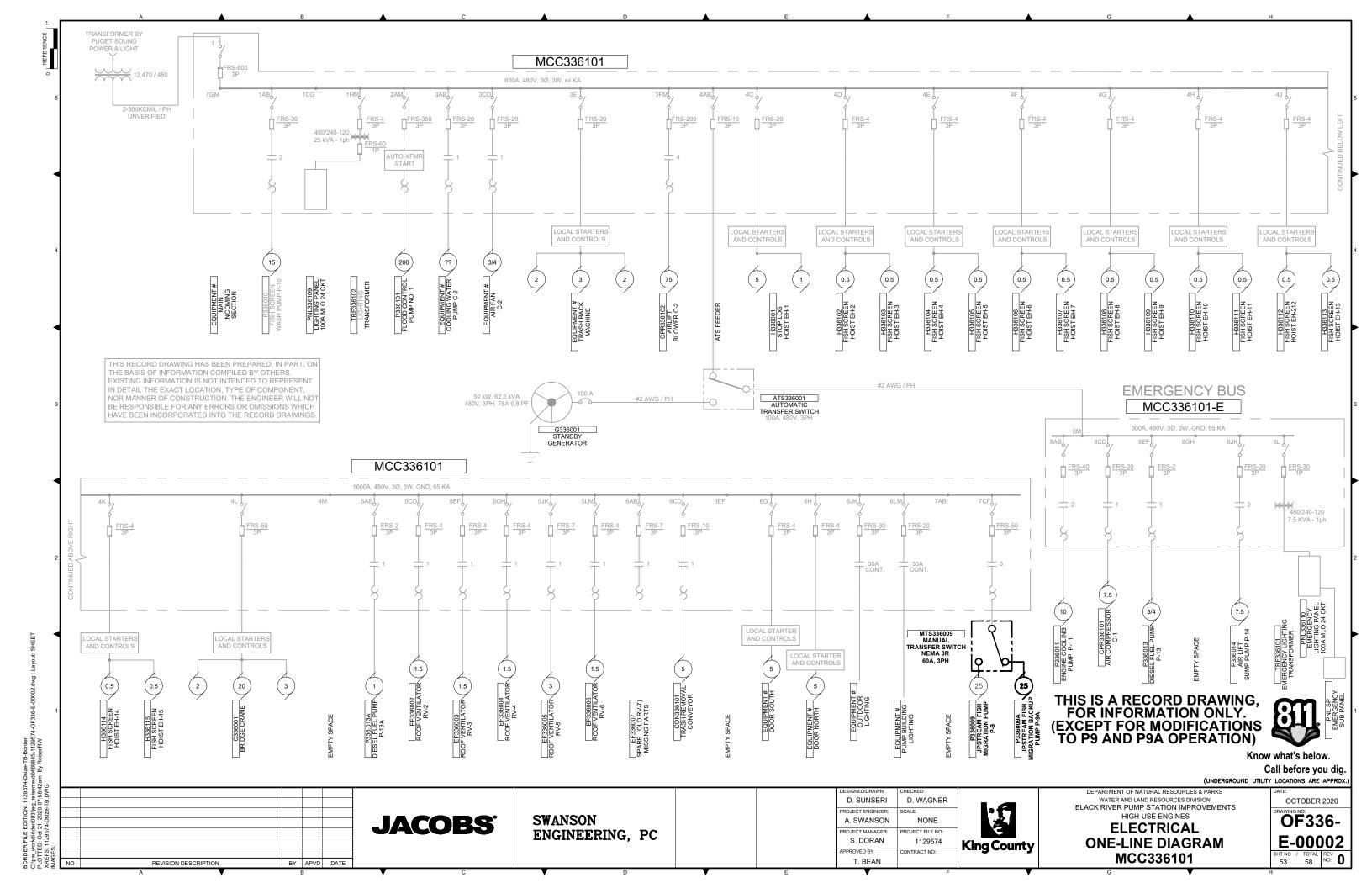


WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

STOP LOG INFLATABLE SEAL AIR SYSTEM PHOTO DETAILS 2

OCTOBER 2020 OF336-M-90002 SHT NO / TOTAL REV NO: **0**





SUB PANEL SP

6 KVA =

VOLTAGE RATING: 120/240 VOLTS, 1 PHASE, 3 WIRE

BUS RATING: 125 AMPS MAIN LUGS: 125 AMPS

FEED: BOTTOM
MOUNTING: SURFACE

125 AMPS
125 AMPS
DITTOM LOCAT
REACE FEDER

LOCATION: PUMP BLDG.
FED FROM: EMERGENCY LIGHTING PANEL

23 Amps Average

RATING: NEMA 1

5.5 KVA

23.3 AMPS (max line load)

22.9 AMPS (average)

| LINE LOADS: | 2,800 | VA(L1 | 1) | | | | 2,700 | VA(L2) |
|-------------------------|-------|-------|--------|-------|--------|-----|-------|-----------------------|
| P4 Controller PNL336004 | 2400 | 11 | 30 / 1 | L2 | 1 | 12 | | SPACE |
| P2 Controller PNL336002 | 2400 | 9 | 30 / 1 | L1 | 1 | 10 | | SPACE |
| P-8 DAY TANK CTRL PNL | 100 | 7 | 15 / 1 | L2 | / 1 | 8 | | SPACE |
| P-6 DAY TANK CTRL PNL | 100 | 5 | 15 / 1 | L1 | 15 / 1 | 6 | 100 | P-7 DAY TANK CTRL PNL |
| P-4 DAY TANK CTRL PNL | 100 | 3 | 15 / 1 | L2 | 15 / 1 | 4 | 100 | P-5 DAY TANK CTRL PNL |
| P-2 DAY TANK CTRL PNL | 100 | 1 | 15 / 1 | L1 | 15 / 1 | 2 | 100 | P-3 DAY TANK CTRL PNL |
| CIRCUIT DESCRIPTION | VA | CKT | BRKR | L1 L2 | BRKR | CKT | VA | CIRCUIT DESCRIPTION |

- INSTALL TWO NEW 30A, 1-POLE BREAKERS TO FEED THE NEW ENGINE CONTROLLERS, SEE CAT DRAWINGS FOR DETAILS

| | | C | ONDUIT SCHE | DULE | | | | |
|-------------|-------------------------|-------------------|-------------|------|------|------------------|--------|---------------------|
| RACEWAY TAG | FROM (SOURCE) | TO (LOAD) | LOCATION | SIZE | TYPE | TOTAL CONDUCTORS | TYPE | SHEET OR NOTES |
| C1002 | TSH336002A (ON PUMP P2) | PUMP-2 LCP336002 | PUMP ROOM | 3/4" | GRS | 2-#14, 1-#12 GRD | XHHW-2 | SEE CAT VENDOR DWGS |
| C1004 | TSH336004A (ON PUMP P4) | PUMP-4 LCP336004 | PUMP ROOM | 3/4" | GRS | 2-#14, 1-#12 GRD | XHHW-2 | SEE CAT VENDOR DWGS |
| C1012 | SV336002A | PUMP-2 LCP336002 | PUMP ROOM | 3/4" | GRS | 2-#14, 1-#12 GRD | XHHW-2 | SEE CAT VENDOR DWGS |
| C1014 | SV336004A | PUMP-4 LCP336004 | PUMP ROOM | 3/4" | GRS | 2-#14, 1-#12 GRD | XHHW-2 | SEE CAT VENDOR DWGS |
| P1002 | SUB-PANEL SP | PUMP-2 LCP336002 | PUMP ROOM | 3/4" | GRS | 2-#10, 1-#12 GRD | XHHW-2 | SEE CAT VENDOR DWGS |
| P1004 | SUB-PANEL SP | PUMP-4 LCP336004 | PUMP ROOM | 3/4" | GRS | 2-#10, 1-#12 GRD | XHHW-2 | SEE CAT VENDOR DWGS |
| D1001 | CONTROL ROOM PLC336103 | CONDULET OR J-BOX | PUMP ROOM | 3/4" | GRS | 2 CAT-5E | ENET | I-40002 |
| D1002 | CONDULET OR J-BOX | PUMP-2 LCP336002 | PUMP ROOM | 3/4" | GRS | 1 CAT-5E | ENET | I-40002 |
| D1004 | CONDULET OR J-BOX | PUMP-4 LCP336004 | PUMP ROOM | 3/4" | GRS | 1 CAT-5E | ENET | I-40002 |
| | | | | | | | | |
| | | | | | | | | |
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Know what's below. Call before you d

Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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| | | | | | 1 |
| NO | REVISION DESCRIPTION | BY | APVD | DATE | |
| | ^ | | | | |

TOTAL LOAD =

JACOBS

SWANSON ENGINEERING, PC

PNL336002



| IGNED/DRAWN: | CHECKED: | |
|----------------|------------------|------|
| SWANSON | D. WAGNER | |
| JECT ENGINEER: | SCALE: | |
| SWANSON | AS NOTED | |
| JECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | Kind |
| ROVED BY: | CONTRACT NO: | |
| T REAN | | |

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

ELECTRICAL CONDUIT BLOCK DIAGRAM

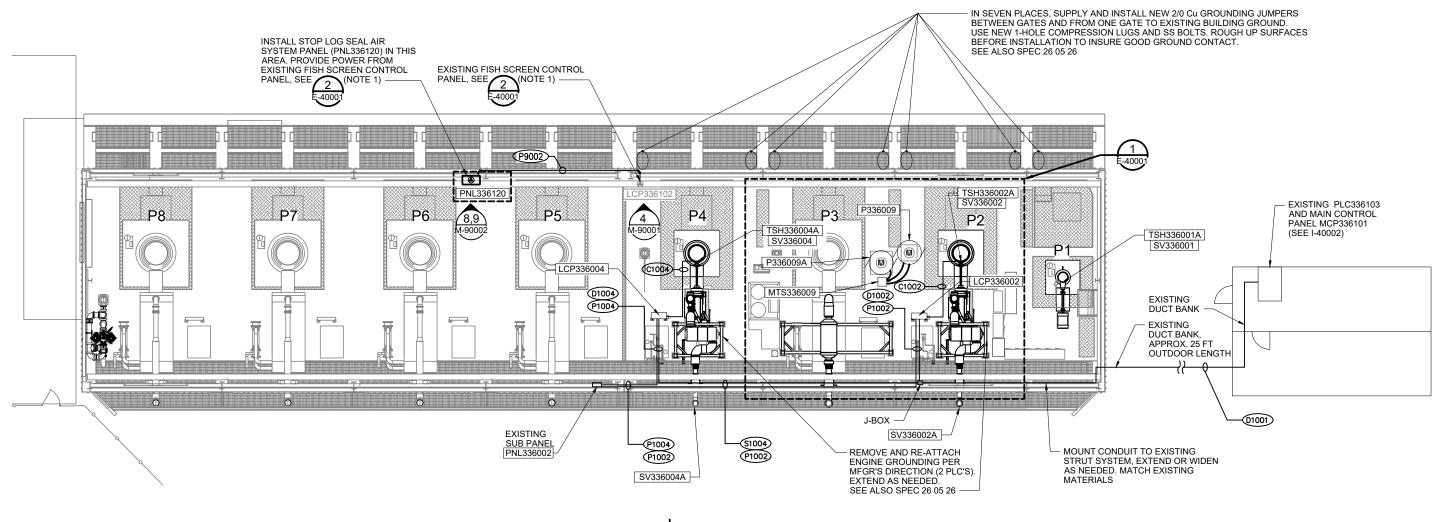
DATE:

OCTOBER 2020

DRAWING NO:

OF 336
E-10001

SHT NO / TOTAL REV NO: 54 58 NO: 0



NOTES:

REVISION DESCRIPTION

 TERMINATE CONDUIT WITH HUBS AT PNL336120 AND LCP336102, USE FLEX CONDUIT INSIDE OF PNL336120 TO CS336120 FROM CONDUIT HUB.

BY APVD DATE

REPLACE GROUNDING
JUMPER BETWEEN GATES

— EXISTING JUMPER TO BUILDING GROUND

811

Know what's below. Call before you dig.

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ENGINE ROOM IS UNCLASSIFIED PER NEC GUIDELINES.

JACOBS

SWANSON ENGINEERING, PC





MAIN LEVEL FLOOR PLAN

| SIGNED/DRAWN: | CHECKED: |
|------------------|------------------|
| A. SWANSON | D. WAGNER |
| ROJECT ENGINEER: | SCALE: |
| A. SWANSON | AS NOTED |
| ROJECT MANAGER: | PROJECT FILE NO: |
| S. DORAN | 1129574 |
| PROVED BY: | CONTRACT NO: |
| | |

King County

DEPARTMENT OF NATURAL RESOURCES & PARKS
WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS
HIGH-USE ENGINES

ELECTRICAL CONDUIT ROUTING PLAN

OCTOBER 2020

DRAWING NO:

OF 336
E-10002

SHT NO / TOTAL REV
55 58 NO: 0



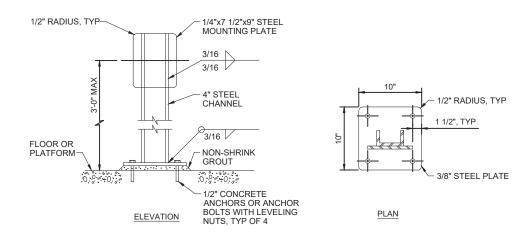
NOTES:

REVISION DESCRIPTION

- 1. INTERCEPT POWER TO PUMP P9, ROUTE TO MTS336009. ROUTE POWER FROM MTS336009 TO PUMPS P9 AND P9A. NEW CONDUITS SHALL BE RGS AND LIQUID TIGHT FLEXIBLE METALLIC
- 2. ADD THE FOLLOWING NAMEPLATES TO MTS336009. "MTS336009, 480 VOLTS FED FROM MCC336101"
 "DO NOT OPERATE MTS336009 WHILE EITHER PUMP IS RUNNING"
- 3. MOUNT MTS336009 PER DETAIL 1 ON THIS SHEET. MAINTAIN CODE CLEARANCE IN FRONT OF THE MTS.

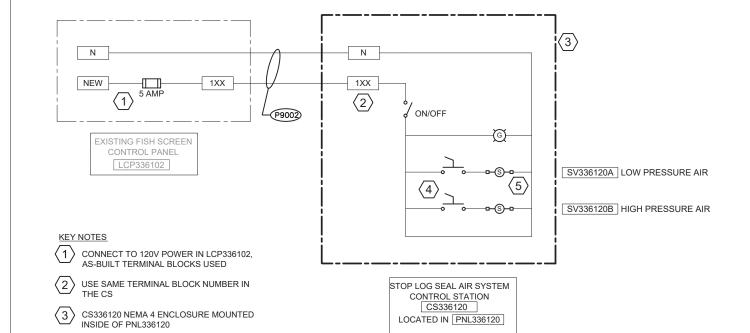
BY APVD DATE

| CONDUIT AND CONDUCTOR SCHEDULE | | | | |
|--------------------------------|--------|------|-------|--|
| P9001 | 1" C | 3#6 | 1#6G | |
| P9002 | 3/4" C | 2#12 | 1#12G | |



DEVICE MOUNTING, CONTROL STATION PEDESTAL

DETAIL SCALE: NTS



ENGINE ROOM IS UNCLASSIFIED PER NEC GUIDELINES.



D. SUNSERI M. KUTZ D. WAGNER AS NOTED OJECT FILE NO: S. DORAN 1129574 T. BEAN



DEPARTMENT OF NATURAL RESOURCES & PARKS WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

ELECTRICAL MISCELLANEOUS DETAILS

OCTOBER 2020 **OF336-**E-40001 TOTAL REV NO: **0**

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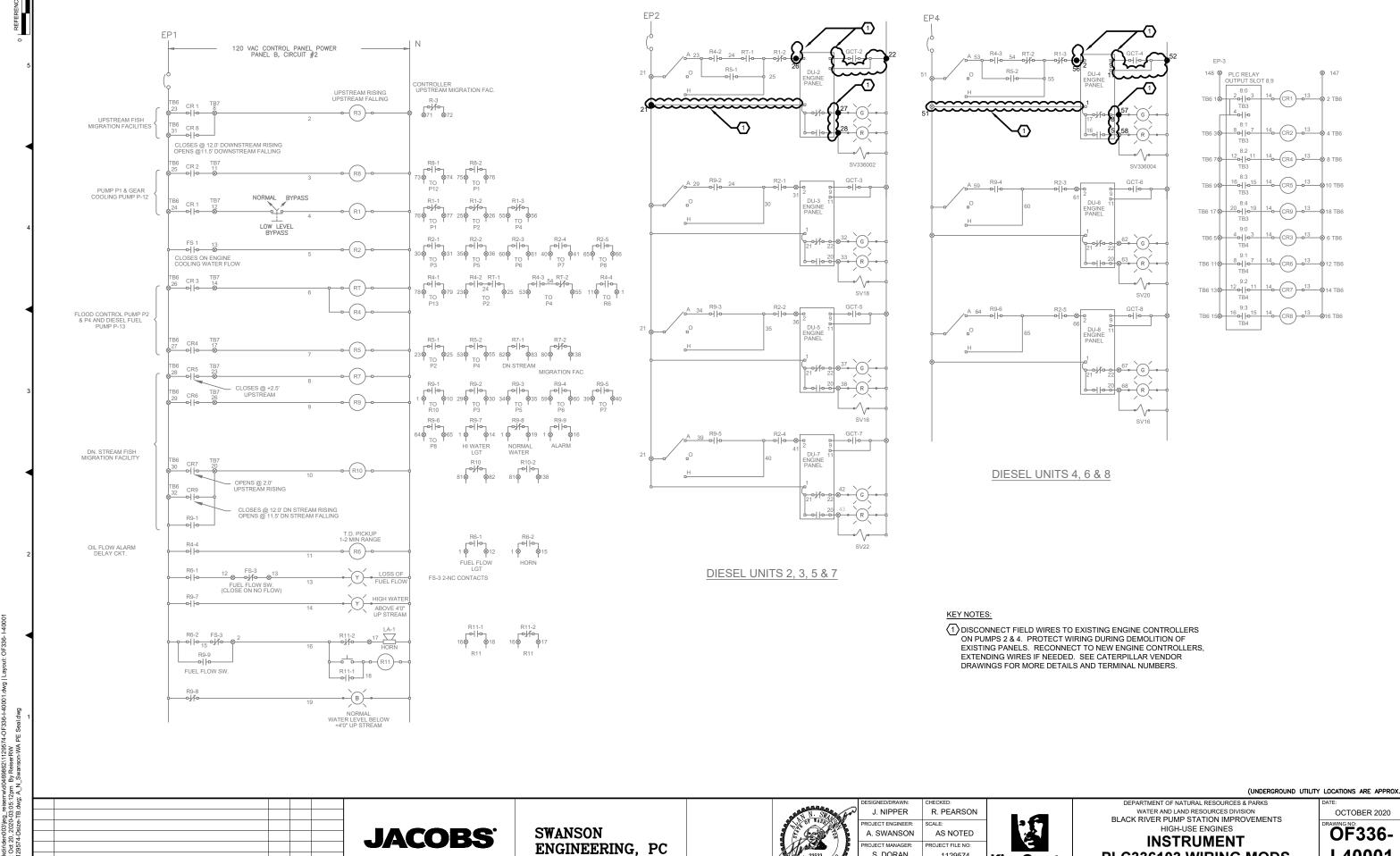
MOMENTARY PUSHBUTTONS SHALL BE INTERLOCKED SO THAT BOTH CANNOT BE

WIRE BETWEEN CS336120 AND THE SOLENOID VALVES SHALL BE MC #14-2

ACTIVE AT THE SAME TIME

DETAIL

SCALE: NTS



REVISION DESCRIPTION

BY APVD DATE

S. DORAN

1129574

King County

PLC336103 WIRING MODS PUMPS 2 & 4 CONTROL

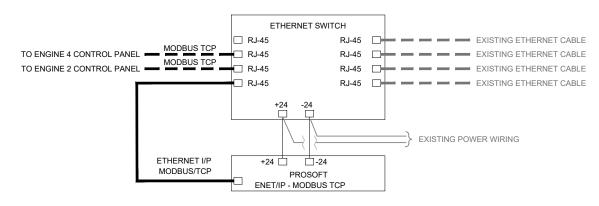
I-40001 57 58 REV NO: **0**



REPLACE EXISTING ETHERNET SWITCH WITH NEW N-TRON 108TX IN SAME LOCATION AND SALVAGE THE SWITCH -

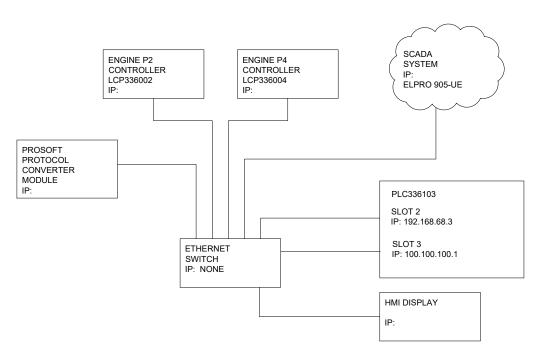


NEW ETHERNET WIRING



NOTES:

- 1. RE-LAND EXISTING ETHERNET CABLES ON THE SAME PORT NUMBER AS ON THE EXISTING SWITCH.
- 2. CONFIGURE NEW ETHERNET SWITCH WITH PARAMETERS SUPPLIED BY PROJECT REPRESENTATIVE, INCLUDING IP ADDRESSES.
- 3. USE EXISTING POWER WIRING FOR NEW ETHERNET SWITCH AND PARALLEL THAT POWER TO NEW PROSOFT CONVERTER.
- 4. COORDINATE WITH PROJECT REPRESENTATIVE BEFORE REPLACING ETHERNET SWITCH.



MOUNT PROSOFT PLX31-EIP-MBTCP CONVERTER MODULE AT THIS LOCATION -

NETWORK DIAGRAM

Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX. DEPARTMENT OF NATURAL RESOURCES & PARKS

BY APVD DATE REVISION DESCRIPTION

JACOBS

SWANSON ENGINEERING, PC



| DESIGNED/DRAWN: | CHECKED: | |
|-------------------|------------------|---|
| J. NIPPER | R. PEARSON | |
| PROJECT ENGINEER: | SCALE: | |
| A. SWANSON | NONE | |
| PROJECT MANAGER: | PROJECT FILE NO: | |
| S. DORAN | 1129574 | 1 |
| APPROVED BY: | CONTRACT NO: | |
| T DEAN | | ı |

King County

WATER AND LAND RESOURCES DIVISION
BLACK RIVER PUMP STATION IMPROVEMENTS HIGH-USE ENGINES

INSTRUMENT PLC336103 ETHERNET & PROTOCOL MODIFICATIONS

OCTOBER 2020 **OF336-**I-40002 58 REV NO: **0**

